A Gulf Publishing Company Publication

The OIL WEEKLY

Member Audit Bureau of Circulations

VOLUME 54, No. 9

AUGUST 16, 1929

Edited Weekly at Houston, Texas

SPENCER W. ROBINSON, EDITOR

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Published Weekly

by

GULF PUBLISHING COMPANY

OFFICE OF PUBLICATION

3301 Buffalo Drive, Houston, Texas

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FORT WORTH: 203 W. T. Waggoner Bldg., H. H. King, Manager.

Issued Friday of each week. Single copies 10 cents. Subscription price: Domestic $1.00 a year, Foreign $1.00 a year. Subscription restricted to those engaged in the producing and pipe line branches of the oil business or the manufacture and distribution of oil field supplies. Advertising rates on application.

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WORLD'S OLDEST AND LARGEST MANUFACTURERS OF OIL FIELD EQUIPMENT

Volume 54, No. 9 *August 16, 1929*

The OIL WEEKLY

A GULF PUBLISHING COMPANY PUBLICATION

Twenty Tests *in* Southwest Texas Drilled Below 5000 Feet

Three Holes Over 7500 Feet in Depth

By RICHARD A. JONES
Geologist

THE oil industry each year witnesses the drilling of more and more tests to phenomenal depths. In Texas major production has been found below 8500 feet in the Big Lake field, Reagan County, in Texon Oil and Land Company's University 1-B, which is producing over 2500 barrels daily from 8523 feet. In California, wells producing from below 5000 feet are common. Production from the deep zones of the Santa Fe Springs field comes from 5000 to 8000 feet below the surface.

In a few years, wells probably will be drilled to a depth of 10,000 feet, for there are various regions where the sedimentary rocks lying at that depth are of such a character that they may carry oil and gas.

In view of this ever-growing interest in deep drilling and the constant search with the bit to uncover deeper production, the writer has thought that it would be of value to present a review of deep drilling — which has been done in Southwest Texas, one of the largest and least explored of the oil and gas producing districts of the United States.

Twenty holes have been drilled to a depth exceeding 5000 feet in Southwest Texas. Three of these holes exceed a depth of 7500 feet, and may be classified as among the deepest tests drilled in the United States.

In the following paragraphs, the deep holes of Southwest Texas will be grouped according to their location in the major geological provinces of the region.

Four tests have been sunk below 5000 feet in the area which is dominated structurally by the Balcones and Luling zones of faulting. It is remarkable that such a small amount of deep drilling has been done in this fault province, which is responsible for the Luling and Salt Flat fields, the largest pools of Southwest Texas, especially since the Trinity sand, a favorable potential oil producing horizon exists everywhere below the present main productive reservoir, the Edwards limestone.

Deepest Hole in Southwest Texas — 7859 Feet

The deepest hole in Southwest Texas is United North and South Oil Company's Kelly 1, in the Nancy Reaville Survey, Caldwell County, on the northwest edge of Luling field. It was spudded in 1925 and was plugged and abandoned in August, 1928, at a total depth of 7859 feet. This test penetrated the entire Upper and Lower Cretaceous column of rocks, and entered pre-Cambrian schist at 4723 feet, drilling in schist for 3136 feet. The lower part of the hole in the schist was very difficult drilling, Kelly 1 spending at one part of the rock section 804 days to drill 1809 feet.

United North and South Oil Company's Tiller 2, in the John Henry Survey, Caldwell County, on the northwest margin of the Luling field was a companion hole to United North and South Oil Company's Kelly 1, described above. Drilling on the two wells proceeded simultaneously, and they were abandoned at the same time. Tiller 2 attained a depth of 7504 feet, being 355 feet less in depth than Kelly 1. The schist was encountered in Tiller 2 at 4808 feet.

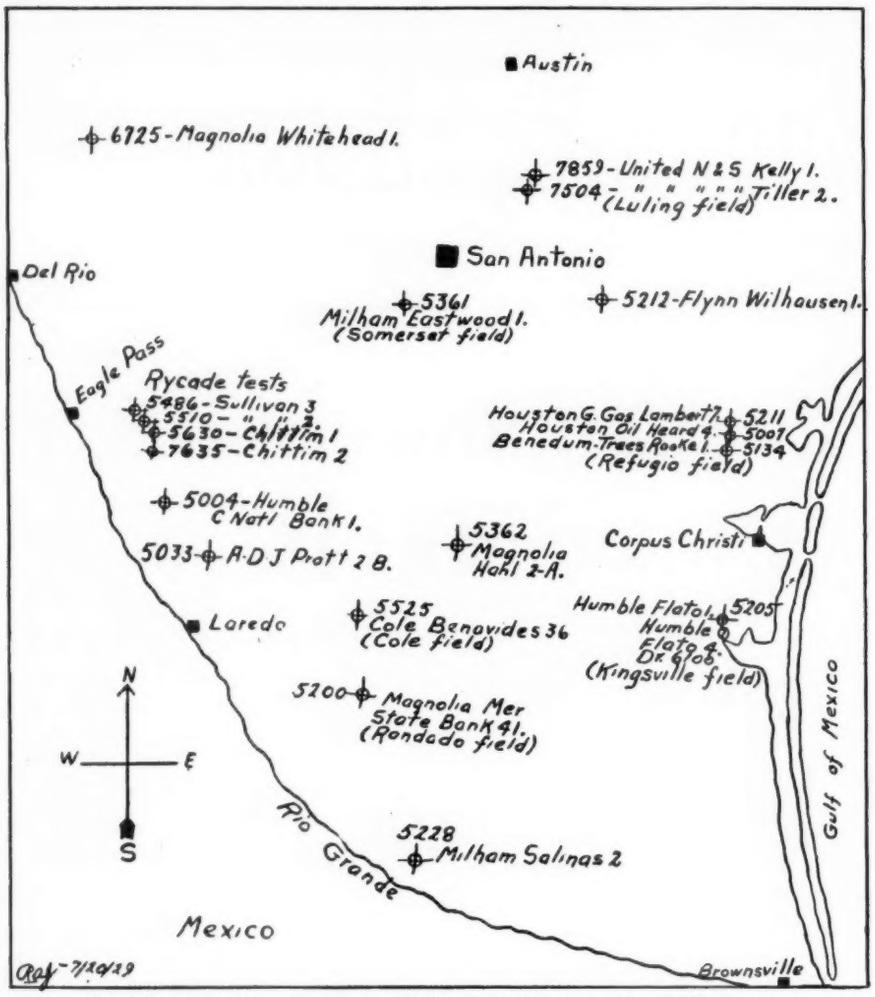
Both Tiller 2 and Kelly 1 penetrated the Trinity sand of the Lower Cretaceous without finding production. A third test in the Luling field has also been drilled through the Trinity sand into the pre-Cambrian schist, although it did not reach 5000 feet in depth. This hole, United North and South Oil Company's Gideon 1, in the M. G. Dike Survey, was abandoned in May, 1929, at 4850 feet, reaching the top of the schist at 4841 feet. The fact that the above mentioned three tests in the Luling field have penetrated the Trinity sand without finding oil and gas makes it possible that the Trinity does not carry production beneath the Luling field. This does not mean that the Trinity may not be productive elsewhere in the Balcones and Luling fault region of Southwest Texas.

Milham Corporation of Texas' Eastwood 1, Bexar County, 18 miles southwest of San Antonio, is on the Eastwood farm, on the northwest edge of the Somerset shallow oil field. It was abandoned in February, 1926, at 5361 feet, in the Trinity sand. Oil and gas shows were found from 4046 feet to 4131 feet in a bituminous, black lime section of the Glenrose limestone of the Comanchean or Lower Cretaceous.

W. D. Flynn's Wilhausen 1, in the S. Bateman Survey, southern Gonzales County, reached a total depth of 5212 feet, and was abandoned in 1929. A gas showing was reported at 5012 feet.

Deep Pennsylvanian Test on Edwards Plateau

But one hole has been drilled below 5000 feet in the Edwards Plateau geological division of Southwest Texas. This test, Magnolia Petroleum Company's Whitehead 1, reached the great depth of 6725 feet. It is located in Survey 81, northeastern Val Verde County, near the Edwards County line. Operations were commenced May 24, 1927, and drilling ceased May, 1928. This wildcat was drilled on a block of over 10,000 acres with a Climax High-Speed "Paymaster" six-cylinder drilling unit.



Sketch map giving location of holes drilled deeper than 5000 feet in Southwest Texas

Only one unimportant fishing job was encountered in drilling this deep hole. The last string of casing was 5-3/16-inch, 17 pound, set at 4430 feet.

Whitehead 1, after drilling in Lower Cretaceous rocks (Edwards and Glenrose limestone and Trinity sands) to 950 feet, entered a section that was predominantly blue shale, and continued in similar formation to the bottom of the hole. This dark shale section is held to be of Pennsylvanian age.

An interesting fact in drilling this test, in addition to the geological information revealed by the penetration of the Pennsylvanian to such great depth, is the high subsurface temperature found. Press reports, printed at the time the hole was completed, state that nine separate temperature tests were made by a representative of the Bureau of Economic Geology, Austin, Texas, between the 250-foot and the 6600-foot level, at intervals ranging from 250 feet to 1500 feet. At 6600 feet the actual temperature was 178.76 degrees Fahrenheit, and it is believed that the boiling point might have been reached at the 8200-foot level, had the hole been carried that deep. It is reported that the crew was forced to work with insulated gloves in handling bits, bailers, and other equipment withdrawn from the hole below the depth of 5500 feet.

The various subsurface temperatures recorded in Magnolia Whitehead 1 are as follows:

Depth in feet	Temperature Degrees Fahrenheit
250	72.83
500	75.73
1000	82.26
1500	90.20
3000	107.06
4000	124.80
5000	147.10
6000	165.56
6600	178.76

Such high temperatures are unusual. Observations made in the past in various regions have shown that excessive earth temperatures are sometimes associated with igneous activity of comparatively recent geological date. Possibly, then, the high temperatures found in Whitehead 1 may be caused by the proximity of the test to a buried igneous mass, belonging to the series of igneous intrusions associated with the general area of the Balcones fault in Southwest Texas, for the Magnolia Petroleum Company's well is not many miles north of the Balcones slippage.

Rio Grande Embayment

Ten holes have been drilled below 5000 feet in the Rio Grande Embayment region of Southwest Texas. Six of these are in the western part of the embayment. Four are in the eastern portion of the embayment in the Mirando or Laredo oil and gas territory. Two and one-half times as many tests have been drilled to a depth exceeding 5000 feet in the great sedimentary basin, known as the Rio Grande Embayment, as in the Balcones and Luling fault province.

Rycade Oil Corporation of Houston for four years has been drilling a series of exceptionally deep wildcat tests in the extreme western portion of the Rio Grande Embayment, on the Sullivan and Chittim ranches in Maverick County, about 20 miles east of Eagle Pass. These holes are in ultra-wildcat territory, being 40 or 50 miles from the nearest production, the shallow gas field of Zavalla County, and 75 miles from the oil and gas pools of Medina County. The fields of the Laredo district, centering at Mirando City, are over 100 miles distant.

Rycade Oil Corporation's Chittim 1, total depth 5630 feet, was spudded in July, 1925, and the test was abandoned in August, 1928. In April, 1927, Chittim 1 tested 28,900,000 cubic feet of wet gas and 75 to 100 barrels of 56 gravity distillate, from 5518-5600 feet, in the Glenrose limestone of the Lower Cretaceous.

Rycade Oil Corporation's Chittim 2, total depth, 7635 feet, drilling started in August, 1927, and stopped in February, 1929. A showing of one barrel of 17 gravity oil was encountered in the Eagle Ford shale at 2410-2460 feet. In the Glenrose limestone a little oil was bailed from 5200 feet; and it is reported that a small amount of oil was again bailed from the bottom of the hole at 7635 feet.

Chittim 2 is the second deepest hole in Southwest Texas, being exceeded only by United North and South Oil Company's Kelly 1, in the Luling field.

Rycade Oil Corporation's Sullivan 2, total depth 5510 feet, had an oil show in the Georgetown limestone at 2850 feet, and was shot with 80 quarts, but no production resulted. At 5410-5443 feet salt water was encountered.

Rycade Oil Corporation's Sullivan 3, total depth 5486 feet, yielded 2½ million cubic feet of wet gas at 5125 feet in the Glenrose limestone; but sulphur water was bailed from 5465 feet, and the test was abandoned in February, 1929.

The above deep tests of Rycade Oil Corporation are widely scattered. Chittim 2 is approximately 2½ miles south of Chittim 1. Sullivan 2 is about five miles northwest of Chittim 1; and Sullivan 3 is about the same distance northwest of Sullivan 2. These deep holes have been drilled along a northwest-southeast trend some 12 miles long. Rycade Oil Corporation has other operations in the same leaseholds, but the above four tests are the only ones that have exceeded a depth of 5000 feet.

These deep tests in Maverick County

show that the deeply buried Lower Cretaceous formations, as the Glenrose limestones, have oil and gas potentialities, and may be expected to produce, when the proper conditions of rock porosity and structure to permit accumulation are found. Especially significant in this regard is the 29 million cubic feet of gas and 75 or 100 barrels of high gravity oil encountered in Chittim 1 in the Glenrose limestone at 5518-5600 feet. Important oil and gas possibilities have also been displayed in Maverick County in younger formations of the Comanchean or Lower Cretaceous. Chittim 3, on March 9, 1929, came in yielding 250 barrels per day of 42 gravity oil from the Georgetown limestone from 3205-3207 feet. After three days, however, salt water appeared. The test was recently drilling at 4070 feet.

Other Deep Tests, Western Rio Grande Embayment

Two other tests, in addition to the four Rycade Oil Corporation holes in Maverick County, have been drilled to a depth exceeding 5000 feet in the western part of the Rio Grande Embayment.

Humble Oil & Refining Company's City National Bank 1, Survey 654, western Dimmit County, near the Maverick County line, was abandoned at 5004 feet in March, 1928. At 1455-1485 feet over two million cubic feet of gas was found, with a rock pressure of 410 pounds.

In A-D-J Oil Company's Pratt Ranch 2-B, Webb County, a total depth of 5033 feet was reached. It is located about five miles southwest of Encinal on the I.-G.-N. railway. The Pratt Ranch well was abandoned August 28, 1924, in the Midway formation of the lower Eocene. This test is especially important from a geological standpoint in that it shows a thickness of over 5000 feet of section in the Eocene from Cook Mountain to Midway inclusive.

Laredo or Mirando District

In the Laredo or Mirando oil and gas producing district, situated in the eastern part of the Rio Grande Embayment, and controlled structurally by the folding and faulting associated with the Reynosa Escarpment and Torrecillas Uplift, four holes have been sunk to a depth greater than 5000 feet. These holes are described below:

Magnolia Petroleum Company's Hahl 2-A, northwest Duval County had a total depth of 5362 feet. It is in Survey 51, northwest of the Government Wells oil field. Drilling commenced on October 14, 1928, and the well was abandoned on February 14, 1929. Oil shows were found in a sand zone from 2333 feet to 2341 feet, probably the same zone as that which produces in the Government Wells pool to the southeast. A west offset to this test, Magnolia Petroleum Company's Hahl 1-A showed 1½ million cubic feet of gas from 4076 to 4094 feet.

Magnolia Petroleum Company's Merchants State Bank 41, Jim Hogg County, located in the Randado oil field, was recently abandoned at a depth of 5200 feet.

Milham Corporation of Texas' Salinas 2, Starr County, is in Porcion 111, an old Spanish land grant bordering the Rio Grande. The total depth is 5228 feet. The well was spudded in on February 11, 1927, and abandoned on September 22, 1927. A considerable amount of gas was made at 4388-4394 feet. It is believed by paleontologists that the bottom of the hole is in the Mount Selman formation of the Eocene.

Cole Petroleum Company's Benavides 36, Webb County, is the deepest ever drilled in the Laredo district, having attained a depth of 5525 feet. It is in Survey 412, in the Cole gas and oil field. The well was started on March 17, 1927, and completed on December 13, 1927. It could have made a large gas well in the 2300-2400 foot sand of the Cole field, but was carried deeper to see what was below the present producing horizons.

In comparison with the many hundred wells drilled during the last nine years in the Mirando or Laredo region, this total number of four wells sunk below the 5000-foot level demonstrates that the very deep oil and gas possibilities of the Laredo district are practically untested. Only four wells have been carried below 5000 feet in the 150 miles of producing and potentially productive territory along the Reynosa Escarpment from the Rio Grande in Starr County to the Nueces River in Live Oak County. The writer sees no reason why deep production should not eventually be uncovered in the Mirando district, for it is known that many thousand feet of sediments, in general favorable to oil and gas formation and accumulation, underly all the eastern part of the Rio Grande Embayment.

Gulf Coast

In eastern Texas, in the salt dome region centralizing on Houston, many very deep holes have been drilled Probably the East Texas coast ranks next to California in the total number of wells drilled below 5000 feet. However, in the Gulf Coast of Southwest Texas very few tests have reached a depth of 5000 feet. The writer has information on only five such holes.

According to the data which the writer has, three tests have been drilled deeper than 5000 feet in the Refugio oil and gas field, Refugio County. These are as follows:

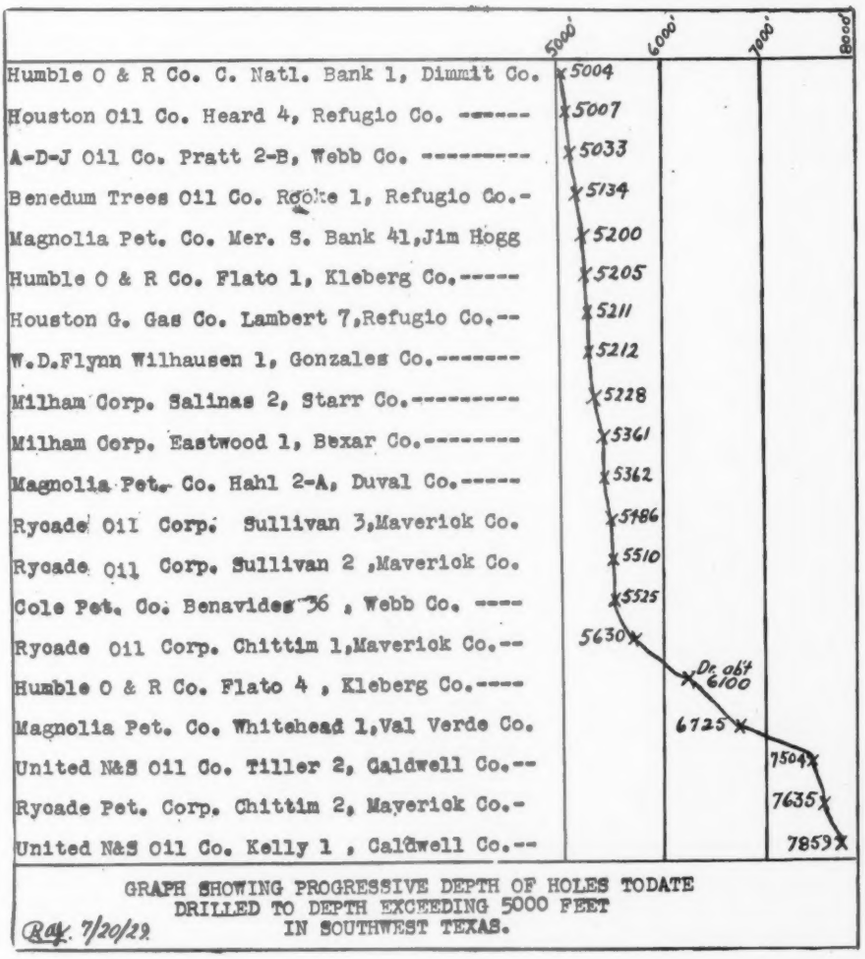
Benedum-Trees Oil Company's Rooke 1. Total depth, 5134 feet.

Houston Oil Company's Wilson Heard 4. Total depth, 5007 feet.

Houston Gulf Gas Company's Lambert 7. This hole is near the northwest edge of the field, and is the deepest ever drilled at Refugio, having reached a total depth of 5211 feet.

In the Kingsville oil and gas field,

(*Continued on page* 106)


5000'
6000'
7000'
8000'
Humble O & R Co. C. Natl. Bank 1, Dimmit Co. 5004
Houston Oil Co. Heard 4, Refugio Co. 5007
A-D-J Oil Co. Pratt 2-B, Webb Co. 5033
Benedum Trees Oil Co. Rooke 1, Refugio Co. 5134
Magnolia Pet. Co. Mer. S. Bank 41, Jim Hogg 5200
Humble O & R Co. Flato 1, Kleberg Co. 5205
Houston G. Gas Co. Lambert 7, Refugio Co. 5211
W.D. Flynn Wilhausen 1, Gonzales Co. 5212
Milham Corp. Salinas 2, Starr Co. 5228
Milham Corp. Eastwood 1, Bexar Co. 5361
Magnolia Pet. Co. Hahl 2-A, Duval Co. 5362
Rycade Oil Corp. Sullivan 3, Maverick Co. 5486
Rycade Oil Corp. Sullivan 2, Maverick Co. 5510
Cole Pet. Co. Benavides 36, Webb Co. 5525
Rycade Oil Corp. Chittim 1, Maverick Co. 5630
Humble O & R Co. Flato 4, Kleberg Co. Dr. 6100
Magnolia Pet. Co. Whitehead 1, Val Verde Co. 6725
United N&S Oil Co. Tiller 2, Caldwell Co. 7504
Rycade Pet. Corp. Chittim 2, Maverick Co. 7635
United N&S Oil Co. Kelly 1, Caldwell Co. 7859

GRAPH SHOWING PROGRESSIVE DEPTH OF HOLES TODATE DRILLED TO DEPTH EXCEEDING 5000 FEET IN SOUTHWEST TEXAS.

RAY. 7/20/29

Bureau *of* Mines Report *Follows Study of*

Disposal of Oil Field Brines

DISPOSAL of the brines produced with crude petroleum and natural gas which have long been a source of trouble to oil and gas operators as well as to farmers and stock raisers in the vicinity of producing fields, has been studied by the United States Bureau of Mines, Department of Commerce. Methods suggested for the disposal of oil field water are storage in evaporation ponds, evaporation of the brines for the recovery of commercially valuable dissolved constituents, diversion into surface streams, and return of the brines to suitable subsurface formations.

Often the production of oil field brines is decreased materially and the production of petroleum increased by the use of bottom hole plugs and by a general repair and cementing of wells, state Ludwig Schmidt and John M. Devine, in a report just published by the Bureau of Mines. The records of 22 wells cemented in the Cushing, Oklahoma, field, showed that prior to the repair work, the average total daily production was 242.5 barrels of oil and 3977.5 barrels of water. The total production of the wells after being repaired was 910 barrels of oil and 1107 barrels of water per day. Thus oil production had been increased 667.5 barrels per day and the water decreased 2870.5 barrels per day by properly cementing the wells.

Ever Increasing Problem

Although proper cementing methods and other types of repair work often will decrease greatly the amount of water produced with the oil, nevertheless, even after the completion of the well repairs, appreciable quantities of brines which require disposal, are frequently found to exist. In many fields, sub-surface conditions such as encroaching edge water obviate effective remedial measures to reduce the water production. Also in wells where the water enters from the lower part of the producing sand there is a definite margin of depth to which the water can be plugged off without reducing the oil production. With these conditions existing it is evident that the disposal of oil field brines is an ever-increasing problem.

As a general rule, the chlorides of sodium, magnesium, and calcium predominate in oil field brines. Sulphate and bicarbonate combinations are not unusual. In addition, some of the brines contain small amounts of the rarer salts such as iodides, bromides, and barium compounds.

Evaporation Ponds

The evaporation pond is by far the most commonly used means of handling salt water, mainly because of the comparatively low initial and operating costs. The pits ordinarily have an area of 500 to 10,000 square feet and a depth ranging from one to 15 feet.

From observations on evaporation ponds the following recommendations are made by the Bureau of Mines:

The evaporation pond should be free from surface drainage.

The evaporative surface should be increased to the maximum possible, and the depth should be held at a minimum consistent with the required storage facilities.

Wind should have free access from all sides.

B. S. and oil should not be allowed to accumulate on the surface of the pond.

In order to ascertain the quantity of salt water which a pond of given size is capable of handling by natural evaporation and the seepage that may be expected, a representative pond was selected for experimntal purposes in the eastern Osage district, Oklahoma. A description of the pond follows:

Area, 8100 square feet.

Average depth from top of embankment, 7.0 feet.

Approximate volume, 10,000 barrels.

Character of formation, clay.

Drainage from surrounding country, none.

Approximate daily water input, 500 barrels.

General conditions of side walls, good.

Approximate age of pond, 4 years.

Since there is usually seepage from evaporation ponds, an experimental pit made from a 52-gallon metal drum was installed nearby. The data obtained from the experimental or drum pit was used for determining the true amount of evaporation of the oil field brine produced on the lease, as well as for obtaining data regarding the rate and amount of seepage from the evaporation pond. In order to have the temperature conditions in both as nearly alike as possible, the drum was set in a pit in an upright position with about three inches of the shell extending above the surface of the ground to prevent surface drainage into the drum. The top drumhead was cut out, giving a leak-proof experimental evaporation pit with an exposed area of 380 square inches and a total depth of about 31.5 inches. Measurements of the depth of the liquid in the drum and lease evaporation pits were taken regularly throughout the test period.

Atmospheric temperatures, as well as surface temperatures of the brine in the experimental pit and lease pond, were obtained with recording thermometers. Observations were made also of the rainfall, humidity, and general atmospheric conditions.

The quantity of brine entering the evaporation pit daily was determined at regular intervals by measuring it in 250-barrel tanks set aside for that purpose.

The duration of the test period was from July 22 to November 30, 1928. Table 3 gives the net evaporation and rainfall data of the experimental pit, by months, throughout the test period.

TABLE 3—Net evaporation and rainfall data obtained on experimental evaporating pit, 1928

Month	Evap. inches	Rainfall inches	Net Evap. inches
July 22-Aug. 1	1.41	1.47	-0.06
August	5.85	2.66	3.19
September	4.07	.54	3.53
October	3.82	7.23	-3.41
November	1.17	3.31	-2.14
Totals	16.32	15.21	1.11

Table 3 shows that over the test period the net evaporation was only 1.11 inches or 0.69 gallons per square foot. If rainfall had been excluded, however, the evaporation would have been 16.32 inches or 10.18 gallons per square foot. These data indicate that no considerable water can be disposed of by natural evaporation from ponds of the present type in any districts where the rainfall approaches the rate of evaporation.

Pond vs. Drum

Figure 1 shows the daily drum and pond gauges, as well as total rainfall over definite periods of time; for example, on August 10 the rainfall was 1.36 inches, whereas the total rainfall from September 8 to 15, inclusive, was only .54 inches. In comparing the pond gauges with the drum gauges, it is shown that during periods of heavy rainfall such as that on August 10, there is a sharp increase in the liquid volume of both containers. On the other hand, during comparatively dry periods such as that from August 18 to September 8, the liquid volume in the pond dropped much more rapidly than that in the drum. This is due to two factors: First, the exposure of a greater percentage of the total pond surface to the evaporation action of wind, and second, and probably the most important, the large amount of seepage from the pond. The sharp drop in the pond level on October 2 to 4 was caused by the temporary diversion of the brine production into the measuring tank. Other minor variations between the pond

XUM

and drum levels are probably due to the fluctuations in the rate of seepage from the pond.

Fluctuations in the rate of seepage from the pond may be accounted for by the variation in the physical and chemical properties of the side wall and the bottom material, as well as by differences in the pressure due to water level in the pond and the water table of the surrounding country.

In Figure 2, Curve A shows the evaporation per square foot of exposed surface per day from the drum and Curve B shows the average daily surface temperature of the brine. It is evident from this figure that surface temperature alone is not the only controlling factor in the rate of evaporation. In addition to temperature, other conditions being equal, the two most important factors are: First, the quantity of water vapor in the surrounding atmosphere, and second, the movement of the air over the evaporating surface.

The quantity of water vapor in the surrounding atmosphere is indicated by the relative humidity. The effect of atmospheric humidity is shown by the fact that on July 23 the average relative humidity was 50.1 per cent. and the average surface temperature of the brine was 97°F. There was no wind blowing. With these conditions the brine level in the drum dropped one-fourth-inch. On August 1, the average relative humidity was 75 per cent., the average surface temperature of the brine 94°F., and there was no wind. On this day the fluid level in the drum dropped only one-eighth-inch. It is evident that the relative humidity was the controlling factor in evaporation on those two days, since there was a difference of 3°F. in the surface temperature.

The removal of water vapors from above the evaporating surface by air movement is directly controlled by wind velocities. For example, on August 2 the fluid level in the drum dropped nine-thirty-seconds-inch; the atmospheric conditions were as follows: very strong wind, temperature 93°F., and the average relative humidity approximately 52 per cent.

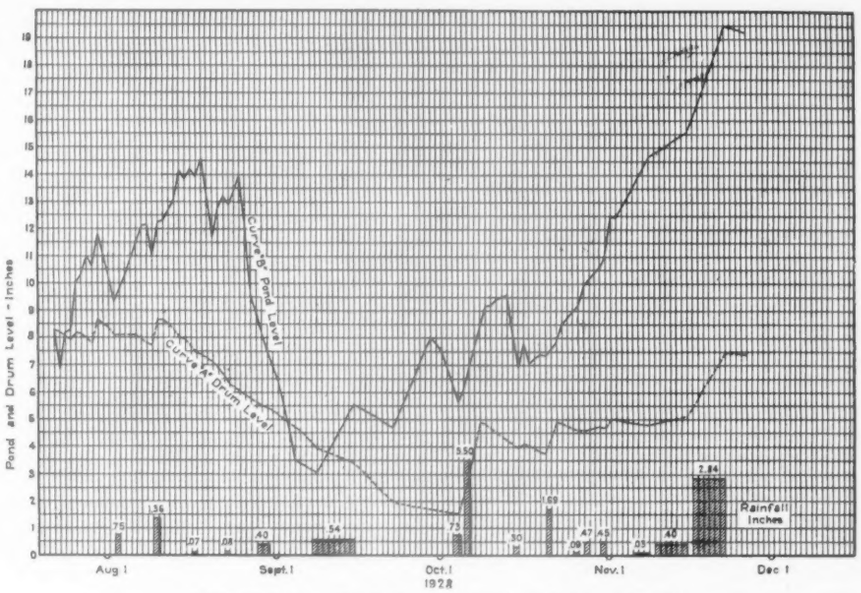


FIGURE 1 — *Variation in pond and drum levels*

On August 8 the fluid level in the drum dropped five-thirty-seconds-inch, with atmospheric conditions as follows: light breeze, temperature 97°F., and the average relative humidity 53 per cent. It is evident that the greater evaporation on August 8 was due to the removal of water vapors from above the evaporating surface, as other conditions were practically the same. The relative effect of wind velocities on evaporation of water, with other conditions being the same, as given by Merriman is shown in Table 4.

TABLE 4—Relative effect of wind velocity on evaporation

Wind velocity in miles per hour	Relative evaporation
0	1.0
5	2.2
10	3.8
15	4.9
20	5.7
25	6.1
30	6.3

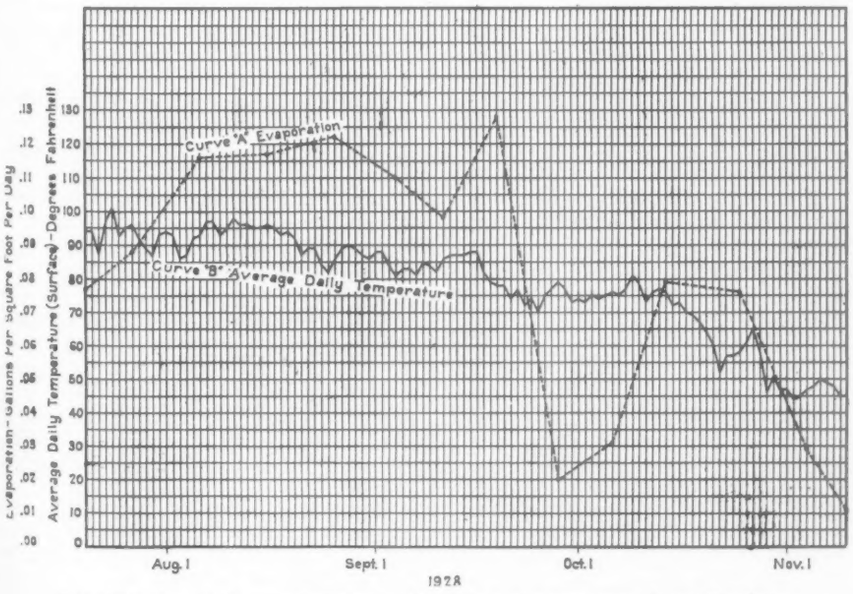


FIGURE 2 — *Daily evaporation and surface temperatures from the drum*

Several atmospheric factors affecting the rate of evaporation are interlocked, and it is impossible to select any one particular factor as the major influence. However, it must be kept in mind that the area of the evaporating surface is a factor of importance, and that other conditions being the same, the greatest proportion of water will be evaporated from those ponds having the greatest evaporating surface per barrel of brine.

Water sprays are used sometimes to aid in the evaporation of brines produced from gas wells. The installations visited were primarily a series of water sprays through which the brine forced under pressure from the water and gas separator. The pressure was sufficient to give an excellent atomizing action to the water. However, in all instances the water was not completely evaporated, and evaporation ponds were used in conjunction with the sprays.

Seepage From Brine Ponds

Observations on the test pond indicated a sufficient amount of seepage to warrant investigation. It has been stated that in clay formations the rate of penetration or percolation of a water is greatly influenced by the colloidal condition which the clay has assumed, which in turn is brought about more or less by the chemical composition of the infiltrating water. Any ions present in the water, such as sodium and potassium, which tend to deflocculate the clay will render the clay relatively impervious to the infiltration of water. On the other hand, such ions as calcium and magnesium, which flocculate the soil, will conversely cause the clay to become relatively permeable to the infiltration of water.

The percolation of oil field brines through clay, where the water contains ions some of which act as flocculating agents and others as deflocculating agents to clay, depends on which of these two agents predominate. For the purpose of obtaining data on the relative rates of penetration of waters of different com-

position the following experiments were performed.

A sample of clay which was representative of the type of material in which salt water pits are often dug was obtained from a pond in the eastern Osage district. The sample was air-dried and pulverized to pass 100-mesh screen to eliminate physical irregularities as nearly as possible. Distilled water and salt solutions of known compositions were allowed to seep through columns of this clay one inch high.

The apparatus employed is shown in Figure 3. *A* represents a glass tube 7 inches long of three-fourths-inch internal diameter. *B* is a rubber stopper which fits snugly within the lower part of the glass tube. A piece of glass tubing, *C*, of small bore and a few inches long is inserted through the rubber stopper, *B*. The upper end of *C* is flush with the upper surface of the rubber stopper, *B*. A piece of ordinary filter paper of suitable size rests on the upper surface of *B*. Below *C* is a graduated test tube, D.

Clay was added to each five similar apparatus to a depth of one inch, meanwhile tapping the container to insure maximum settling. The solutions were added until liquid columns of five inches (about 40 c.c.) rested on the clay.

The following solutions were used:

(1) Distilled water.

(2) Solution containing 36,914 p.p.m. sodium as sodium chloride.

(3) Solution containing 6,530 p.p.m. calcium and 1,625 p.p.m. magnesium as chlorides.

(4) Solution containing 36,914 p.p.m sodium, 5,530 p.p.m. calcium, and 1,625 p.p.m magnesium, all present as chloride.

(5) An actual oil field brine of the following analysis:
Calcium—5,530 p.p.m.
Magnesium—1,625 p.p.m.
Sodium—36,914 p.p.m.
Bicarbonate—177 p.p.m.
Sulphate—None.
Chloride—71,361 p.p.m.
Total solids—115,609 p.p.m.

It will be noticed that (2) contains the same amount of sodium as (5), whereas (3) contains the same amount of calcium and magnesium as (5). Solutions (4) and (5) are identical with the exception that (4) contains no bicarbonate.

The seepage was allowed to continue under the natural head. The results are shown in Table 5.

Table 5—A comparison of seepage of different salt solutions through clay

Cumulative time, hours	Seepage of solutions in total c.c. Sample (1)	Sample (2)	Sample (3)	Sample (4)	Sample (5)
3	0.1	1.2	2.2	1.6	2.0
4	0.6	1.7	3.0	2.8	2.8
5	1.2	2.4	4.0	3.8	3.8
6	1.8	2.8	4.8	4.9	4.6
22	7.5	10.0	18.0	18.8	16.6
25	8.3	11.4	20.4	20.8	18.4
27	8.8	12.2	21.9	22.2	19.4

From Table 5 it is seen that solutions (3), (4), and (5) had nearly the same rate of seepage, while solution (1) showed a much lower amount; the seepage of slution (2) is between the amounts for (1) and for the group (3), (4), and (5).

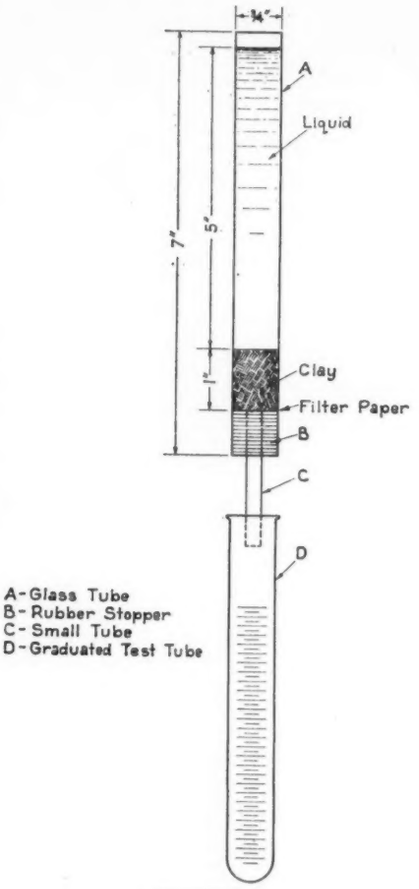


FIGURE 3
Apparatus for Figuring Rate of Seepage

The foregoing results indicate that the presence of calcium and magnesium in a solution increases the rate of seepage through clay independently of the presence or absence of sodium. The lower rate of seepage of the distilled water is possibly due to the deflocculating action of the initial sodium content of the clay and the resulting colloidal form of the clay when wetted.

The permanency of the colloidal condition produced in the clay was not ascertained, but one significant fact was observed. The tube which contained distilled water was allowed to drain and then filled with the oil field brine. After 48 hours the rate of seepage was only slightly greater than when distilled water was used, indicating that the existing colloid was at least semi-permanent in character.

One observed method of counteracting seepage from evaporation ponds is worthy of mention. A narrow ditch had been dug completely around the evaporation pit. This ditch drained toward a sump about 10 feet deep. The seepage water is allowed to accumulate in the ditch and to drain into the sump, from whence it is pumped back into the main pond by means of an ordinary pumping jack operated by a convenient power. In one case noted, a considerable amount of seepage water was collected and pumped back into the pond. No doubt, even with this drainage ditch around the evaporation pit, a great deal of water escaped from the pit levels below the bottom of the ditch.

Recovery of Salts

At one plant in the Mid-Continent area dissolved salts from oil-field brines are obtained in commercial quantities. The recovery of the salts from brines is an industry requiring a considerable amount of technical skill and special equipment to operate at a profit. It is doubtful if the recovery of the common salts from oil-field brines is economical at the present time, because natural deposits of salt and natural brines have a much greater concentration than most oil-field brines. However, some oil-field brines contain rare salts which have a high commercial value, and there is a possibility that some of these brines contain a sufficiently high percentage of rare alts such as iodides and bromides to make recovery processes profitable. The development of new and improved salt-extraction processes may make possible the economic recovery of the rare salts in some oil-field brines.

As a general rule, the chlorides of sodium, magnesium, and calcium predominate in oil-field brines. Sulphate and bicarbonate combinations are not unusual. In addition some of the brines contain small amounts of the rarer salts such as iodides, bromides, and barium compounds. Oil-field brines differ greatly in the concentration of the dissolved contents and usually range in specific gravity from 1.001 to 1.175. However, certain exceptional brines having a specific gravity as high as 1.205 have been analyzed. The proportions of the respective ions present vary even in waters having the same gravity. This may be noted by comparing samples 1 and 4, in Table 1. Table 1 gives the chemical analysis of a few oil-field brines which are representative of several of the leading oil-producing areas in Oklahoma and illustrates the wide variation in types of waters encountered.

(*Continued on page 30*)

TABLE 1.—Analyses of water samples obtained from selected representative producing areas in Oklahoma.

Radical	Sample 1 p. p. m.	Sample 2 p. p. m.	Sample 3 p. p. m.	Sample 4 p. p. m.	Sample 5 p. p. m.
Calcium	10,753	5,530	4,708	12,822	1,254
Magnesium	2,691	1,625	1,939	2,748	396
Sodium	76,915	36,914	34,058	75,400	12,229
Carbonate	....	....	....	....	....
Bicarbonate	31	177	....	92	119
Sulphate	348	2	44	184	8
Chloride	145,244	71,361	66,486	146,804	22,161
Total Solids	235,982	115,609	107,235	238,045	36,167
Specific Gravity at 60°F.	1.162	1.081	1.076	1.162	1.026

XUM

[SECOND INSTALLMENT]

Heat Treatment *of* STEEL

By HARRY PENNINGTON

Mechanical Engineer, Member American Society for Steel Treating; Member American Society for Testing Materials

(CONTINUED)

In plain carbon steels — those of the S. A. E. 1000 series — extreme hardness and toughness cannot be secured in the same piece by any known heat treatment, and where both are desired, the use of alloys are necessary.

The most widely used alloys are chromium, nickel, vanadium and molybdenum, each of which imparts especial properties to steel. Combinations of these alloys, in some cases, brings out desirable qualities not secured with a single alloy.

The high properties of alloy steels are not secured in any way except by heat treatment; each alloy will be taken in detail.

Structural Steel; Tool Steel

Leaving out the mild steel shapes, such as I-beams, channels and so on, of the usually termed structural steels, the word structural, applied to steels in machine and appliance design, here includes steels treated for strength against load and shock. The high test structural steels may also be used for medium cutting work. The upper limit of carbon in this type of steel is 0.50 to 0.60. For instance, the steel most widely used today in fish tail bits is an S. A. E. steel, No. 5135, a chrome steel, which, although it hardens and may be used hard, may also be drawn to remove hardness, when it is adapted to the making of oil hardened parts requiring greater strength and toughness than can be obtained from carbon steels. The only difference in this steel when used in fish tail bits and in, say a hook, is that the cutting edge of the bit is given only a slight draw or temper, after quenching, whereas, in the hook, the drawing temperature would be between 1000 and 1200°F., to remove brittleness and make the hook tough.

In a fish tail bit, the shank and blade — the bit blank — are materially improved and given reliability against fracture by heat treatment, consisting of normalizing at 1575 to 1625°F., heating again to above critical, or to 1550F., quenching in oil, followed by drawing at 900 to 1200 F., while the cutting edge, heated again and quenched, is given a draw of only 300 to 400 F., maximum, presenting the often met phase of local heat treating.

Thus, a structural steel of this kind is more of a tool steel, but the writer uses the term structural steel for steels treated for strength and worked into mechanical designs.

Cutting steels, on the other hand, are generally meant to include the steels used for cutting purposes — cutting metal.

The most widely used metal cutting steels are those with tungsten alloy as the basis of resisting softening due to heat generated while cutting, although there are carbon steels still used for lighter metal cutting work, as in lathe bits, twist drills, reamers, taps and so on.

Cutting Steels

Carbon steels can be made just as hard as any steel, but for cutting work, where heat is generated, carbon steels soften, due to heat, and lose their edge quickly, and where the "red hard" steels can be used, this type of steel invariably shows greater sustained production rates than the plain carbon steels, however hard the latter might be and wherever used.

Hardness is usually taken as an index to wear resistance, and where heat is not generated, such as will soften carbon steel, this index is not far wrong for all types of steel except the high manganese steels when brittleness is removed by a slight draw.

The value of cutting steels is usually determined by the durability of cutting edge. Durability of edge is a matter of toughness and resistance to drawing, or softening due to heat generated while cutting and, aside from fish tail bits and standard tool bits, where red hard steels can be used, particularly as inserts, these steels afford far greater sustained service.

Used in lathe work, the maxim holds that for heavy cutting work, solid cutting tools are used. To use them, ample tool support is necessary, for this type of steel has low dynamic strength, or low impact value, and solid tools made of it necessarily are very heavy, and tool support is as close to the cutting edge as possible. Inserted cutters, which are more economical, are used for lighter work, but with a support that rigidly holds the tool near to the cutting edge.

Then, for especial tools, such as milling cutters for milling down in a hole, reamers, the high speed steels, although they would furnish considerably better service, are not adapted because of their low strength, or lack of toughness. Other steels, with fair cutting properties, but with higher dynamic strength or toughness, are safer to use, and safety in such tools is the first requisite.

Thus, high tungsten steels are eliminated from use down in a well for practically all purposes.

Other cutting steels are those of the higher carbon content, alloyed or plain carbon, in which the carbon content ranges from 0.60 to 1.00 carbon., used for shear blades and files, in which great hardness is desired, but where toughness is not so much of a factor. These are termed tool steels.

The Society of Automotive Engineers has arranged a steel classification, or standardization, using a system of numerals by which a steel may be identified. The first numeral in an S. A. E. steel indicates its class, as:

Carbon steels	1
Nickel steels	2
Nickel-chromium steels	3
Molybdenum steels	4
Chromium steels	5
Chromium-vanadium steels	6
Tungsten steels	7
Silico-Manganese steels	9

The second numeral, in the alloy steels, indicates the percentage of the dominating alloy, and the last two or three numerals indicates the carbon content in hundredths of one per cent or in "points." Thus, 2350 indicates a steel of approximately 3% nickel, and 0.50% carbon; 1020 indicates a carbon steel with 0.20% carbon, and so on.

This system permits grouping steels according to alloy contents, according to carbon content, forming definite series of each.

In the accompanying tabulation, the effect of heat treatment is fully shown. The untreated steels are the plain carbon with not over 0.25% carbon, which are widely used for forging steels, without treatment. The low yield point, 36,000 pounds illustrates the lack of strength. The higher carbon steel, 1045, shows the effect of interior refinement due to treating, for the yield point has more than doubled, while treatment has imparted to it toughness, as indicated by the high percentages of elongation and reduction.

The alloys, always used in treated condition, except for some of the plain vanadium alloys in large forgings, are shown with distinctly high properties — the highest being molybdenum steel, with its yield point of 185,000 pounds, or six times as great as the plain carbon steel No. 1020 with the same draw. The reduction of area and elongation of this steel, however, is lower than the S. A. E. 1020, but the enormous strength set up in it by the alloys and treatment, render it far more able to withstand sudden loads.

The 3250 steel is a high test steel also that is easily treated. Its elongation and reduction show it to be a tough steel, capable of withstanding great shock, and its carbon and alloy content render it little

Some Representative S. A. E. Steels

Carbon Steels 1000 Series

	S. A. E. No.	Carbon	Manganese	Phosph. Max.	Sul. Max.
Carburizing grade	1015	0.10-0.20	0.30-0.60	0.045	0.05
Structural	1040	0.35-0.45	0.50-0.80	0.045	0.05
Tool steel	1360	0.55-0.70	0.90-1.20	0.040	0.05

Nickel Steels 2000 Series

	S. A. E. No.	Carbon	Maganese	Phos. Max.	Sul. Max.	Nickel
Carburizing grade	2315	0.10-0.20	0.30-0.60	0.04	0.045	3.25-3.75
Structural	2340	0.35-0.45	0.50-0.80	0.04	0.45	3.25-3.75

Nickel-Chromium Steels 3000 Series

	S. A. E. No.	Carbon	Maganese	Phos. Max.	Sul. Max.	Nickel	Chronium
Carburizing grade..	3115	0.10-0.20	0.30-0.60	0.04	0.045	1.00-1.50	0.45-0.75
Structural	3250	0.45-0.55	0.30-0.60	0.04	0.040	1.50-2.00	0.90-1.25

Molybdenum Steels 4000 Series

	S. A. E. No.	Carbon	Manganese	Phos. Max.	Sul. Max.	Nickel	Molybdenum
Carburizing grade..	4615	0.10-0.20	0.30-0.50	0.04	0.045	1.25-1.75	0.20-0.30
Structural	4140	0.35-0.45	0.40-0.70	0.04	0.045	Chromium 0.80-1.10	0.15-0.25

Chromium Steels 5000 Series

	S. A. E. No.	Carbon	Manganese	Phos. Max.	Sul. Max.	Chromium Range
Carburizing grade	5120	0.15-0.25	0.30-0.60	0.04	0.045	0.60-0.90
Structural	5140	0.35-0 45	0.50-0.80	0.04	0.045	0.80-1.10
Tool steel	52100	0.95-1.10	0.20-0.50	0.03	0.030	1.20-1.50

Chromium-Vanadium Steels 6000 Series

	S. A. E. No.	Carbon	Manganese	Phos. Max.	Sul. Max.	Chromium	Vanadium Min.	Vanadium Desired
Carburizing grade	6120	0.15.0.25	0.50-0.80	0.04	0.04	0.80-1.10	0.15	0.18
Structural	6140	0.35-0.45	0.50-0.80	0.04	0.05	0.80-1.10	0.15	0.18
Tool steel	6195	0.90-1.05	0.20-0.45	0.03	0.03	0.80-1.10	0.15	0.18

Below is given comparative physical data on some widely used steels; after heat treatment:

S.A.E. No.	Brinnell Hardness	Tensile Strength	Yield Point	Reduction of Area	Elongation	Drawing Temperature F.
1020	163	80,000	50,000	60%	20%	400
1020	143	71,000	36,000	68%	30%	1200
1045	229	110,000	76,000	50%	23%	1000
2320	262	130,000	99,000	55%	17%	800
2340	248	130,000	110,000	54%	20%	1000
3120	241	125,000	96,000	64%	18%	800
3250	331	168,000	149,000	52%	18%	1000
4150	390	195,000	185,000	35%	14%	1000
6130	320	170,000	140,000	50%	20%	1000

subject to fatigue, unless loaded to above its yield point.

Uses of Steels

The use of the various steels set out above covers a wide range. The low carbon steels, of all grades are suitable for case hardening work, lending themselves to the manufacture of all parts requiring a hard case.

The 1020 steel is a mild forging steel that was formerly used in large quantities, but which is giving way to the stronger steels, for its cost is very little under that of any of the steels set out.

The 1045 steel is used for heavier forgings and parts requiring greater strength than when made of 1020.

2320 is adapted to case hardening in larger sized parts, in which the treatment is such as to refine and draw the core for toughness.

2340 is a structural tool steel, adapted to shafts, gears, and other parts.

3250 is an especially good steel, adapted to many uses, such as links, hooks, shafts, stems, drill collars, casing shoes, and other parts requiring high strength and toughness.

4150, a molybdenum steel, has high shock value, and may be machined when harder than other steels. It is adapted to parts requiring high strength, such as crankshafts, connecting rods, pins, links requiring strength and toughness.

6130, a chromium-vanadium steel also has high impact value, and is adapted to drilling engine connecting rods and valve gear linkages, shafts, gears, and all parts where strength and toughness are required to a greater extent than in plain carbon steel.

Thus, the range of selection of steels for specific purposes is large. In the design of machine parts, the selection of steel for the part, as well as heat treatment, is as important as the design of the part. The qualities of hardness, strength and toughness may be obtained with a balance of one against the other, to suit any type of machine part or appliance.

Plain Carbon Steels — the S. A. E. 1000 Series

Carbon steels are made in any carbon range from 0.10 on up to 1.50. The low carbon steels, up to 0.20 are used for drawing tubing, and for die working, where extreme ductility is necessary. The same steels are suitable for carburizing.

Mild steel, up to 25 carbon, is the forging grade so widely used in an average field shop for making parts requiring no especial strength or light weight. This steel welds in the forge better than any other grade, for, the steel itself has no great strength and the weld does not reduce its strength as much as in other grades. To weld steel, it must be heated to the fusing point, which is entirely too high to retain the strength. Neither can a welded piece of steel be restored to its original strength by heat treatment.

Low carbon steels have been found by the writer in the field to be more susceptible to fatigue than the higher carbon. Drill pipe, of 20 carbon steel untreated, has shown that it will make fewer holes safely than pipe made with carbon content from 0.40 to 0.50.

Welded cable tool stems are weakest in the weld; these are better made by upsetting a solid bar, rather than by welding on the box and pin. On account of being soft, low carbon steel threads are more susceptible to galling than higher carbon, and harder threads, or heat treated threads.

In work where strength plays an important part, low carbon plain steel has no place, particularly in the deep well—big hole well work being done today. Machine parts, tools and appliances are more cheaply made for the same strength out of alloy steels, even though the cost of heat treatment is added.

Increasing the carbon content, we have the medium carbon steel, used for structural purposes, such as S. A. E. 1050. The additional carbon, permitting refinement of grain, sets up twice the yield point of low carbon steel. But, of course, this quality is brought out only by heat treatment for the particular service.

Further increasing the carbon content, we arrive at the carbon tool steels, used for many purposes in cutting metal, wood, and earth, where brittleness does not prevent its use. Knives, shear blades, twist drills, reaming blades — cutting tools of all kinds are made of this steel, but, where the steel heats in use, it softens readily. In this case, steels with some degree of red hardness are more economical.

Figure No. 1 is a chart showing the properties of low carbon steel — the forging steel of today, and Figure No. 2 shows a structural carbon steel. The curves, from tests, show the difference in properties with increasing carbon content.

Nickel Steels — the S. A. E. 2000 Series

These are made in all carbon percentages from a carburizing grade with 0.15 carbon for small parts and 0.20 carbon for parts of heavy section, up to 0.50 carbon in the structural grade.

Heat treatment is needed to bring out the qualities of nickel steels, and the range of nickel and carbon is such that steels for many purposes may be selected from this series.

For instance, gears of heavy section, steel bridge eye bars, where fatigue is the important factor, large crankshaft forgings for steam and oil engines, steam tur-

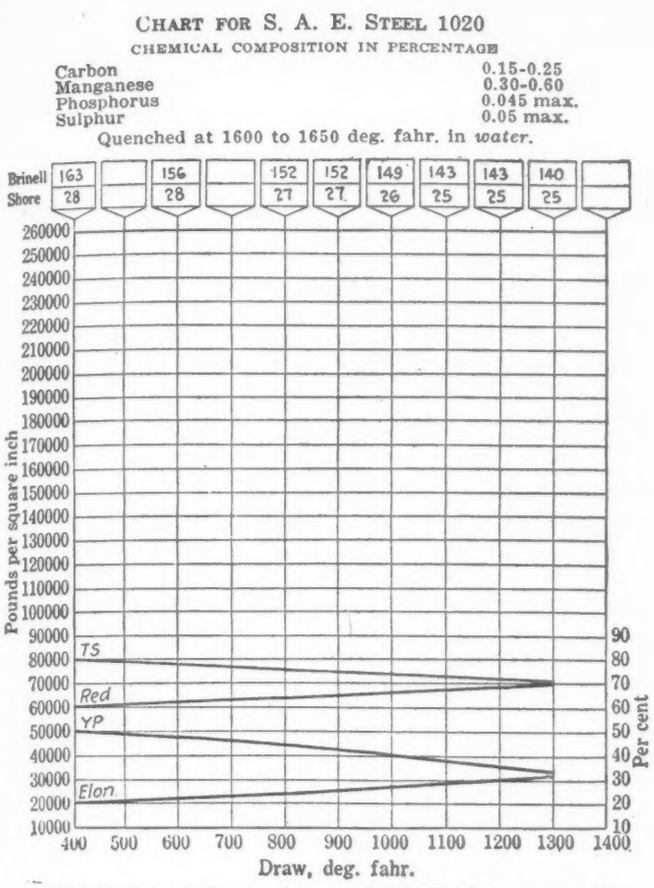


FIGURE 1—*A low carbon steel suitable for use as mild forging steel*

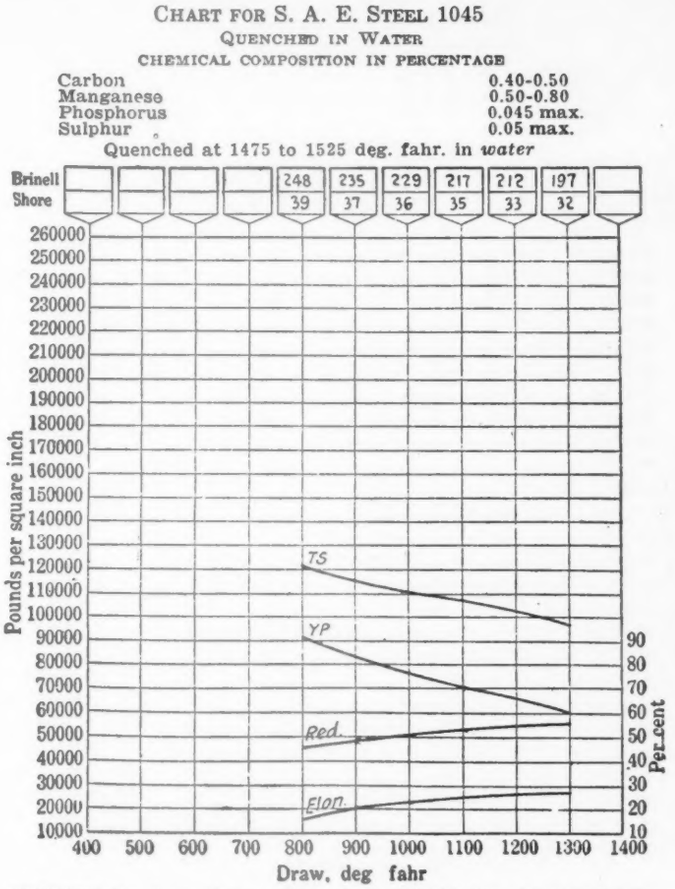


FIGURE 2—*A medium carbon steel suitable for structural purposes in machine and appliance design. Requires heat treatment*

bine shafts, axles, are widely made of a 3½ per cent. nickel steel, treated.

In the carburizing grade, such as small gears, cam shafts, tappets, nickel steel is also used in quantity on account of its properties, one of which is minimum distortion.

Nickel has a low expansional coefficient, and readily imparts this property to steel when alloyed with nickel. The metal Invar, a nickel alloy, used where an expansional coefficient close to zero is necessary, has become widely used. Its use in gravitational pendulums in geodesy has resulted in instruments of far greater accuracy than before.

The heat treatment of nickel steels is somewhat simpler than some other grades, and as a result, its use may be less expensive than plain carbon steel in many cases.

Figure No. 3 is a chart of S. A. E. steel No. 2340 showing the higher properties imparted to steel by nickel and the greater carbon content.

Chromium-Nickel Steels — the S. A. E. 3000 Series

Chromium-nickel steels find the widest use of any on account of their properties of toughness, secured without severe quenching, due to the chromium, and on account of freedom from distortion, due to the nickel. The properties of each alloy are intensified by the other, chromium-nickel steels possessing greater hardening power, strength and toughness than steels where only one of these alloys is used.

The early chromium-nickel steels were produced from Mayari Iron, mined in Cuba, which contains both nickel and chromium. Later it was found that more exact percentages of the alloy could be secured by alloying in the steel furnace, and the steels obtainable today, to exact specification of analysis, are made in the latter manner.

Chromium elevates critical temperature, while nickel lowers the same, but when used together, the balance is secured that permits hardening ranges approximating carbon steel.

Due to the hardening power of chromium, slower quenching speed may be used, which means that oil may be used instead of water and that greater hardness may be obtained without the dangers of cracking set up by higher quenching speeds. Penetration of hardness is greater in this class of steel, and in larger parts, chromium-nickel steels find favor for that reason.

Low carbon chromium-nickel steels — up to 20 carbon — are the carburizing grades, and are used perhaps to a greater extent than any other steel at the present time for case hardened parts. A peculiar advantage of this class of steel for case hardening is that the critical temperature of the high carbon case is considerably lower than the critical temperature of the core, making it feasible to quench for refining the core, at higher temperature, and to quench for refining the case, at lower temperature. At the same time, heating to quench for case refinement serves to draw the core and condition it for toughness.

For heavy parts, slightly higher carbon in the carburizing grade, is needed for core refinement, for massive parts cool in the quenching bath more slowly than light parts.

Structural Steels

Structural steels of the 3000 class, ranging up to 0.50 carbon may be divided into two grades; those up to 30 or 35 carbon being adapted to parts where toughness is the main factor, and above 40, up to 50, for parts requiring greater strength.

Parts subject to wear may be well made of this class of steel, for moderate hardness may be secured, with fair toughness, although the maximum of both cannot be had in any single steel and heat treatment.

The higher alloy steels of this series, 3200 to 3400, with varying carbon content, have greater strength than the lower alloy steels of the same grade, although the higher alloys are more expensive.

The writer has used the 3250 steel in cutters for core barrels, cutters for inserted blade bits, drill collars, hammer bit heads and cutters, and has found that it furnishes the required hardness and strength for severe work.

Figure No. 4 is a chart of the properties of S. A. E. 3250 steel. Its high tensile strength — 220,000 pounds, at an 800 degree draw shows the effect of chromium and nickel, together with carbon in this remarkable steel.

The same heat treatment, according to the steel, causes chromium-nickel steel castings to show elevation of physical

CHART FOR S. A. E. STEEL 2340

CHEMICAL COMPOSITION IN PERCENTAGE

Carbon	0.35-0.45
Manganese	0.50-0.80
Phosphorus	0.04 max.
Sulphur	0.045 max.
Nickel	3.25-3.75

Normalized at 1625 to 1725 deg. fahr.
Quenched at 1425 to 1475 deg. fahr. in *oil.*

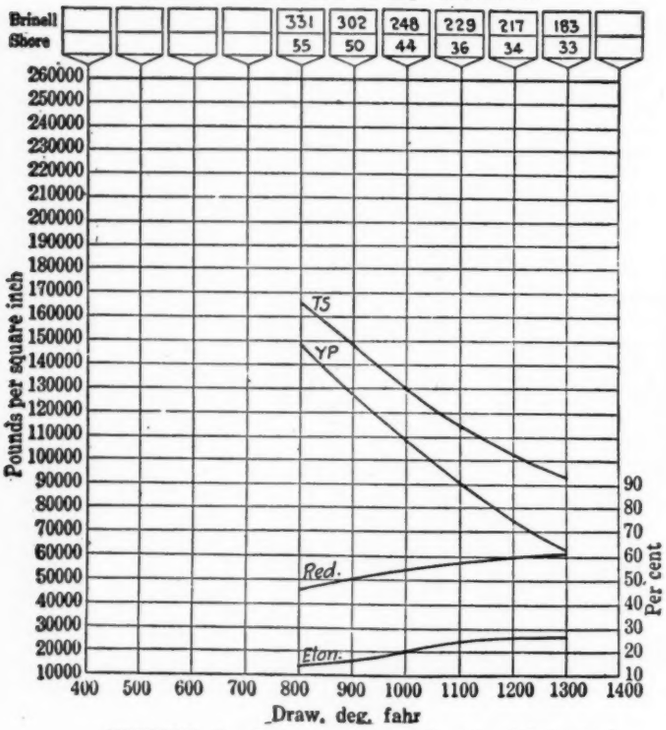


FIGURE 3—*A structural grade of nickel steel*

CHART FOR S.A.E. STEEL 3250

CHEMICAL COMPOSITION IN PERCENTAGE

Carbon	0.45-0.55
Manganese	0.30-0.60
Phosphorus	0.04 max.
Sulphur	0.04 max.
Nickel	1.50-2.00
Chromium	0.90-1.25

Normalized at 1600 to 1700 deg. fahr.
Quenched at 1425 to 1475 deg. fahr in *oil.*

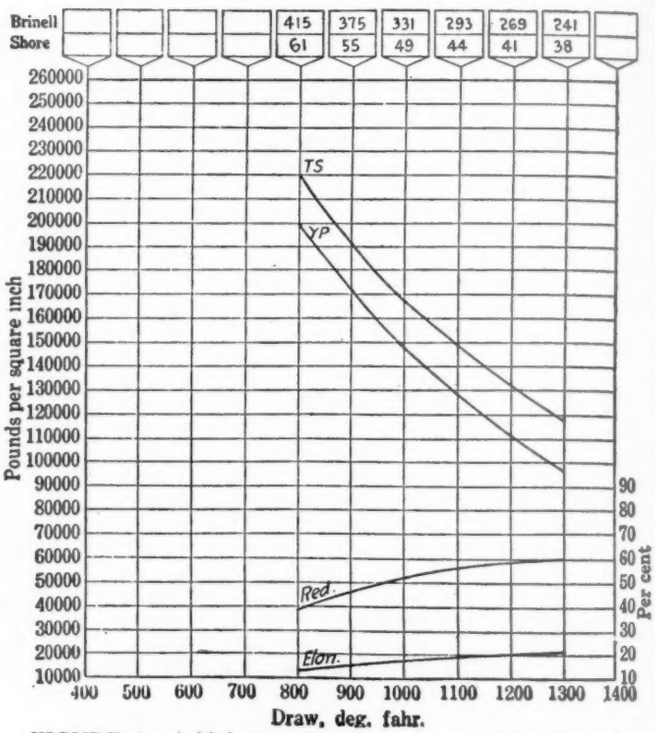


FIGURE 4—*A high test chromium nickel structural steel*

properties the same as the rolled or forged steels of the 3000 class. Tensile strength, in treated castings, is well over 100,000 pounds. These castings are harder, however, in the medium carbon grade, than plain carbon steel castings, and are machined with slightly greater difficulty, although fine finish may be had.

For rotary tables, bedplates, drive bushings, slip rings, brake drum castings, clutches, and other rotary rig parts, chromium-nickel steel castings annealed show excellent properties of strength and resistance to wear.

High pressure valves and fittings of this material, when made with skill to avoid inclusions, or pipes, widely used for high pressure well work, high pressure pipe line work and in refinery work, where high temperatures are used, are found to possess the required strength even though subjected to heat up to 1000 F.

When quenched and drawn, steel castings increase largely in strength and toughness, although, as noted elsewhere, the same analysis and treatment of steel castings cannot furnish the strength and toughness of forgings of the same kind, for forging, or rolling refines the grain of the casting, without which the casting is coarsely crystalline compared with the forging.

This is the second installment of an article of length on heat treating by Mr. Pennington. Another installment will appear in an early issue.

Disposal of Oil Field Brines

(*Continued from page 26*)

TABLE 2.—Comparative analysis of water samples obtained from salt-water well, Upton County, Texas.

Radical	Sample at well head p. p. m.	Sample from ditch p. p. m.
Calcium	822	758
Magnesium	278	297
Sodium	1,641	1,688
Carbonate	....	....
Bicarbonate	677	244
Sulphate	2,675	2,893
Chloride	2,429	2,535
Total solids	8,522	8,415
Specific gravity at 60°F.	1.007	1.007

Diversion of oil-field brines into surface streams is generally prohibited by state laws. However, in some cases—as where a stream is naturally saline, or for other reasons—permission has been granted by state officials for such disposal.

Oil-field brines are diverted into surface streams in several of the Texas fields, notably those located in Orange and Hardin Counties and the Powell field. In general all of the operators in the field organize a mutual salt-water company. The brines are collected at a central point and then pumped through pipe lines or, where the topography is favorable, are allowed to flow through open ditches to estuaries of the Gulf of Mexico or into rivers carrying a sufficient volume of water to prevent the addition of the oil-field brines from increasing the concentration of salts to a harmful degree.

In several of the Southern California fields the salt water is gathered into central pits from which it is pumped through pipe lines to the ocean. In this type of disposal it is necessary that great care be taken by the operators to prevent waste oil from accompanying the brine water. In the Powell field, each lease is equipped with a series of oil and water separators to prevent oil from being carried into the gathering streams.

Recently some operators have tried the expedient of returning oil-field brines to subsurface formations. This method, however, is not generally used. There is always the danger of subsequent contamination, even in isolated areas; also the subsurface formation, which may be used as a reservoir, is not always of sufficient thickness and porosity to take the brine at the required rate and at comparatively low pressures. If this method is used, great care must be taken that the brines are delivered to a reservoir formation fom which migration can not take place with detrimental effect to sources of fresh-water supply and to developed or potential oil and gas bearing strata, either adjacent to or at a considerable distance from the reservoir.

Further details are given in Serial 2945, "The Disposal of Oil-Field Brines," copies of which may be obtained from the United States Bureau of Mines, Department of Commerce, Washington, D. C.

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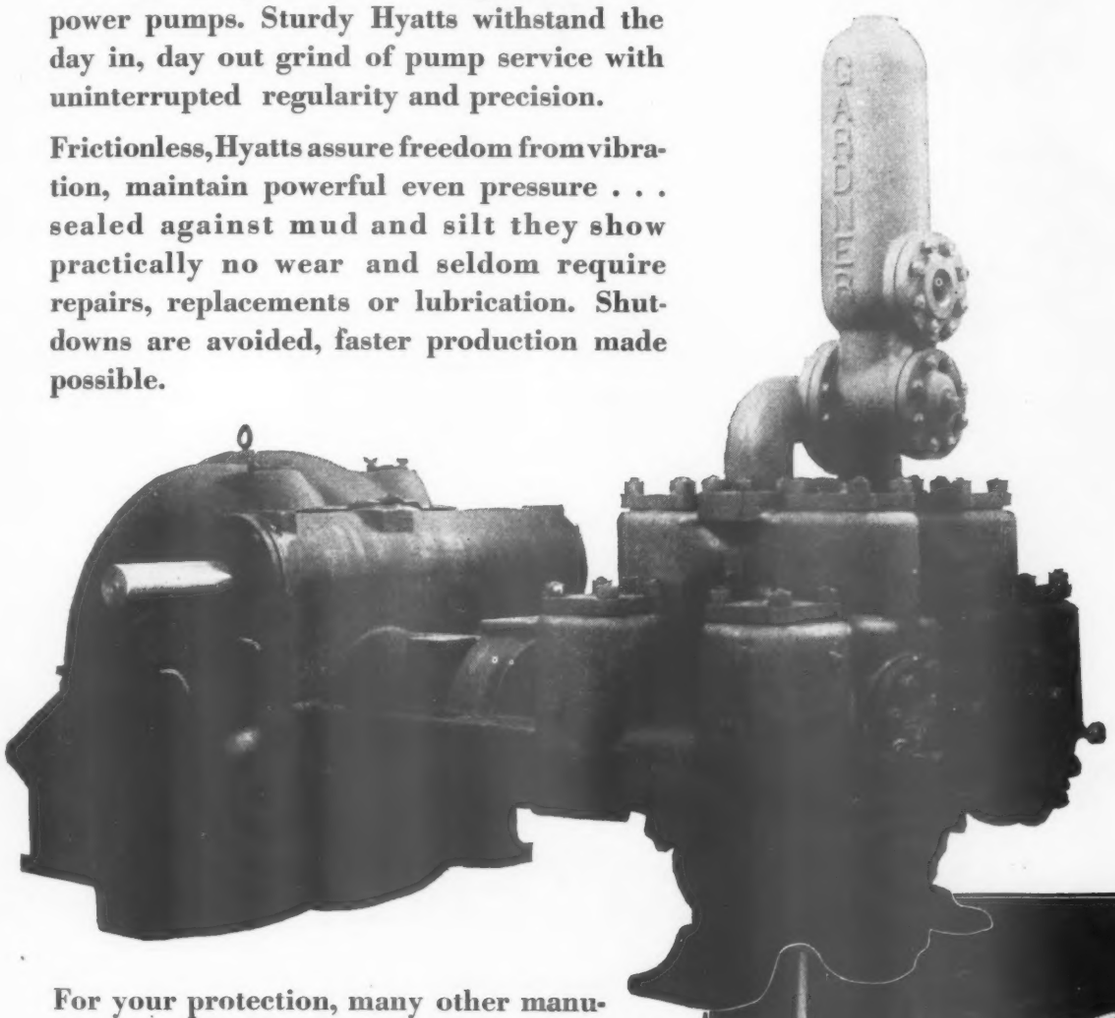

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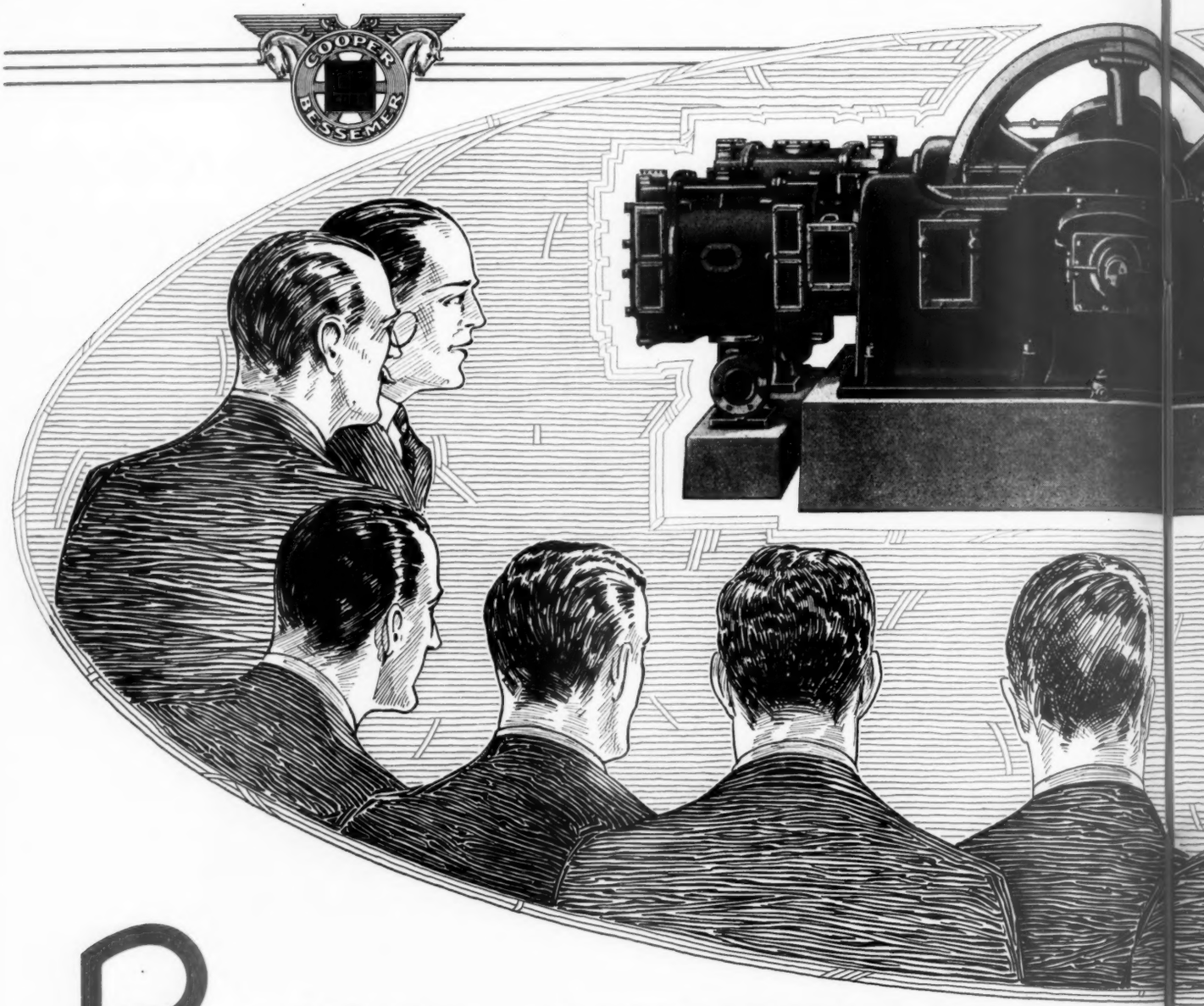

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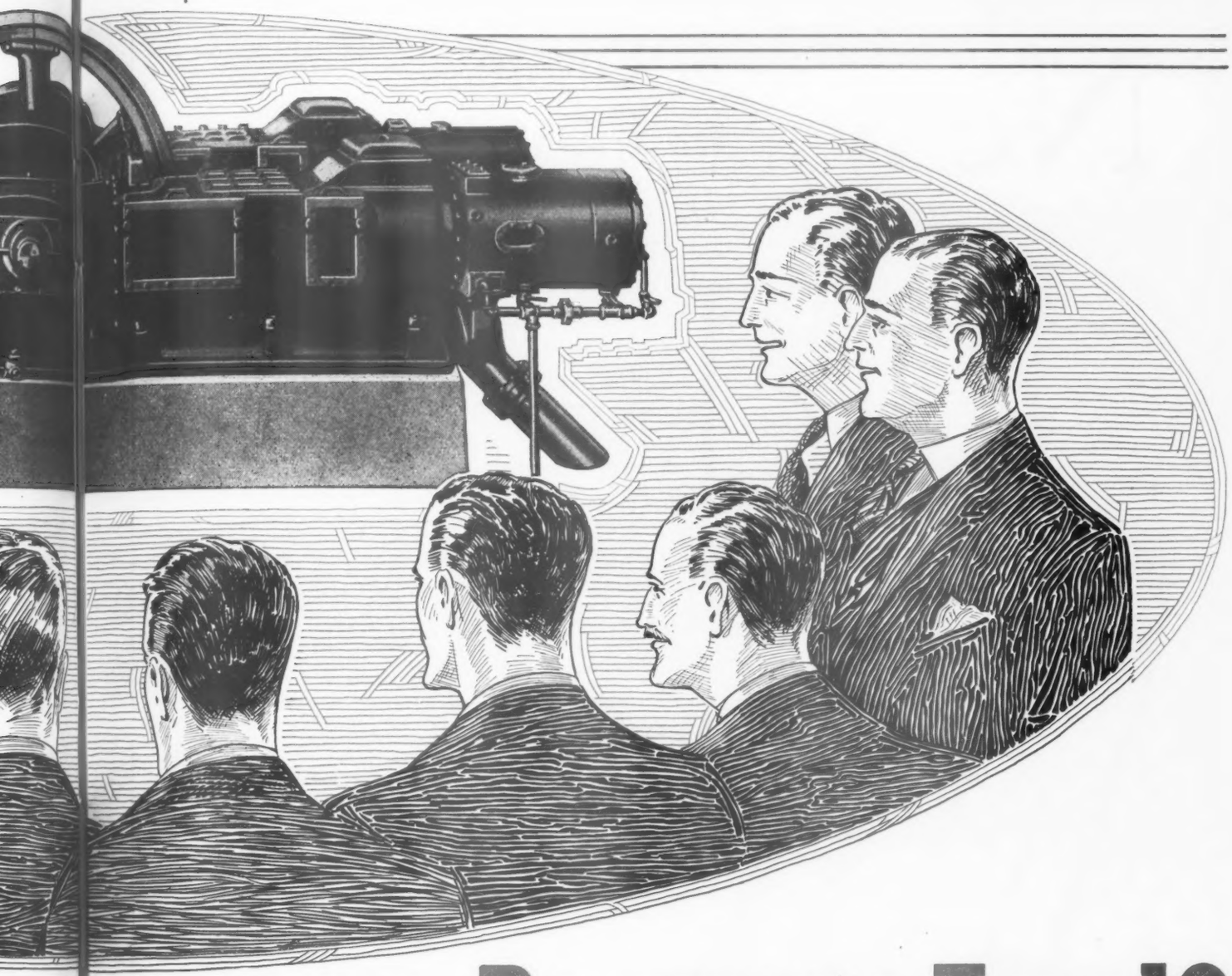

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Texas Commission Allows Increase In Prorated Production

DALLAS, Texas.—Declining production in the various lime horizons covered by proration rules of the Texas Railroad Commission in the Howard-Glasscock County district has resulted in lease owners being authorized to produce their wells nearer their maximum pumping capacity during August. A special session of the proration advisory committee was held here August 6, with M. B. Sweeney, production manager for the Sun Oil Company and chairman of the above committee, presiding. The committee voted to petition the commission to remove the 2500-foot oil horizon from proration restrictions. The meeting was attended by R. D. Parker, chief supervisor of the oil and gas division of the commission.

Recommend No Proration for 2000 Foot Zone

Prorated horizons in the field are limited to 37,500 barrels daily, but during July an average of only 31,899 barrels daily was maintained, or 5601 barrels daily under the allotted quota. Actual production during July was officially placed at 988,871 barrels by E. E. Andrews, umpire for the field, or 173,631 barrels short of the maximum monthly allowance. Many 40-acre units in the prorated area are unable to produce their allowance, while existing proration rules hold down the output of owners of more prolific units.

Because of the field running short of its maximum production quota during recent months, the proration advisory committee voted to allow units with more than one well on production to produce 70 per cent of its potential, while 40-acre units with only one producer can pump 75 per cent of the potential daily output. These potential gauges are determined at the end of each month by the umpire through brief pumping tests on each well.

Acting on a motion made by R. T. Piner, Big Spring, and seconded by R. M. Brown of the Moody Corporation (Superior Oil Producing Company), the advisory committee agreed to recommend to the commission that proration rules be lifted from the 2500-foot lime horizon, where 17 pumpers register a combined potential of 4070 barrels daily, or an average of 239 barrels each. This middle oil horizon is somewhat spotted over the field, as only eight companies have been successful in making commercial wells from same, while it is virtually free of water. Some discussion was also made regarding the lifting of proration rules from the 3000-foot horizon also, since this is no longer capable of flooding the market with a surplus of crude, while water prevails in most of the producers. A hearing by the commission will probably be held soon to decide when the 2500-foot horizon shall be exempt from proration.

Even though a very small fraction of the total crude recovery from Howard-Glasscock County prorated areas has been obtained through natural flow, the field is credited with having produced 9,993,596 barrels since proration was initiated, August 15, 1928. About 250,000 barrels was produced prior to proration enforcement, thus giving a total recovery of about 10,243,596 barrels of crude ranging from 26 to 34° gravity from the 2200, 2500 and 3000-foot lime horizons.

Well Average High

Umpire Andrews reported a total of 122 wells on production at the close of July, and during the 11½ months of proration enforcement these wells have an average recovery of 81,915 barrels each. This is a higher crude recovery than originally credited to the field, and has caused many to revive their ultimate recovery estimates.

The Moody Corporation leads with a total recovery of 1,295,836 barrels during the past 11½ months, while Magnolia Petroleum Company holds second place with a recovery of 1,165,406 barrels. However, Magnolia Petroleum Company produced about 250,000 barrels from its discovery lease of the deep horizon before proration went into effect. The joint lease of Owen-Sloan Oil Company (Laurel Oil & Gas Company) and Cosden Oil Company is credited with having produced 1,146,693 barrels from seven wells on a 160-acre tract. This latter tract has a recovery of 163,813 barrels average per well, and 7167 barrels per acre. Merrick and Bristow interests of Ardmore, Oklahoma, hold the record for crude recovery per well, since their four producers in the 3000-foot horizon have produced 724,514 barrels from four wells, or an average of 181,128 barrels per well.

Total crude recovery made from the three lime horizons in Howard-Glasscock County district during the 11½ months that proration enforcement has been in effect is itemized below by companies:

Company—	No. Wells	July Production	Total Prod. 8-15-28 to 9-1-29
Moody Corporation (Superior)	21	98,635	1,295,836
Magnolia Petroleum Company	15	60,539	1,165,411
Owen-Sloan and Cosden Oil Company	7	105,166	1,146,693
Schermerhorn Oil Company	10	54,844	913,684
American-Maracaibo Company	8	96,804	802,753
Merrick-Bristow et al	4	62,842	724,514
Sun Oil Company	6	63,333	710,526
Amerada Petroleum Corporation and Rycade Oil Corporation	8	57,751	618,388
Group One Oil Corporation and Continental Oil Company	10	99,787	610,280
Cosden Oil Company	6	11,960	322,898
Louisiana Oil Refining Corporation	2	15,653	232,687
Plymouth Oil Company	3	73,541	224,617
Shell Petroleum Corporation	2	15.488	217,761
Ward Oil Company	3	35,008	211,141
Sprague Oil Company	3	8,907	204,173
Howard County Oil Corporation	2	31,114	153,644
The California Company	2	32,641	132,372
Witherspoon Oil Company-Glasscock Brothers	2	15,348	88,341
Humble Oil & Refining Company	3	36,574	81,990
Continental Oil Company	2	1,313	58,372
Taylor-Link Oil Company	2	5,005	53,235
Cranfill-Reynolds Company	1	6,618	24,280
Total	122	988,871	9,993,596

Kettleman Curtailment Seems a Reality

Los Angeles.—Curtailment of drilling operations at Kettleman Hills looks like a reality, with all of the companies either having signed or signified their intention of signing the agreement, after several small changes were made. One company has expressed dissatisfaction at some of the provisions of the agreement but probably will sign the paper.

Under terms of the agreement, the three wells offsetting the discovery well will be completed and allowed to produce in an effort to reduce the pressure in the latter. Most of the remaining wells will be drilled to the sand and shut down for a period of two years. No new operations will be started, except in a few instances where permits have been refused. If, after producing for 90 days, the three offsetting wells have not reduced the pressure in the discovery well to a point where it may be shut in safely, they will be allowed to flow, a percentage of the oil and gas to be distributed to operators who are forced to suspend operations.

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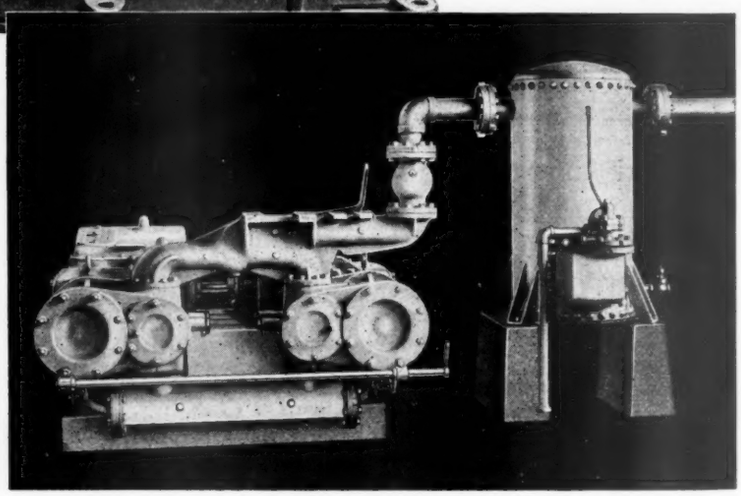

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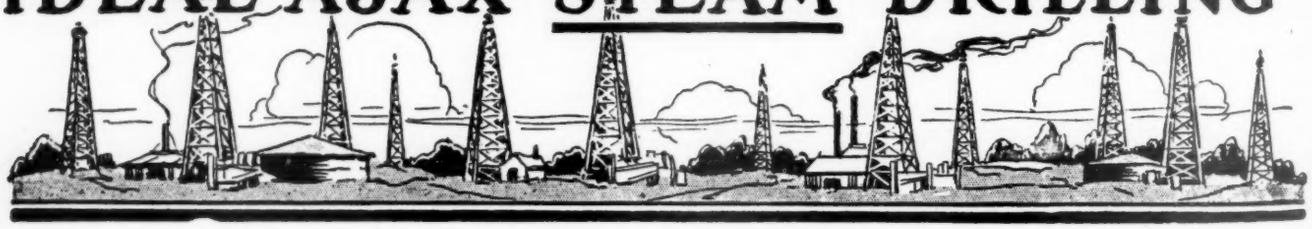

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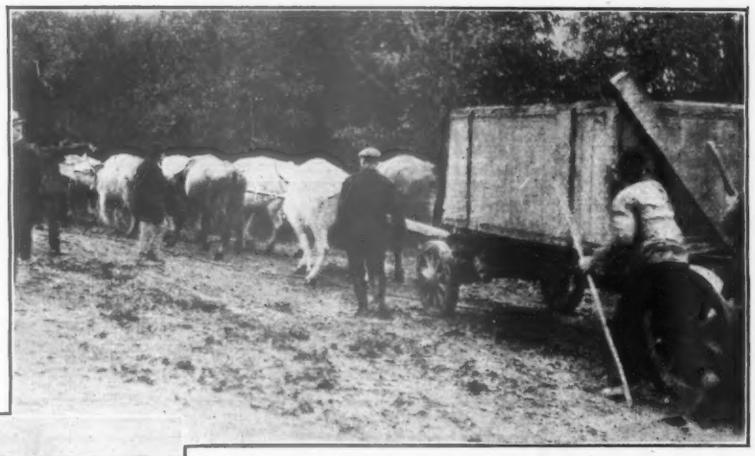

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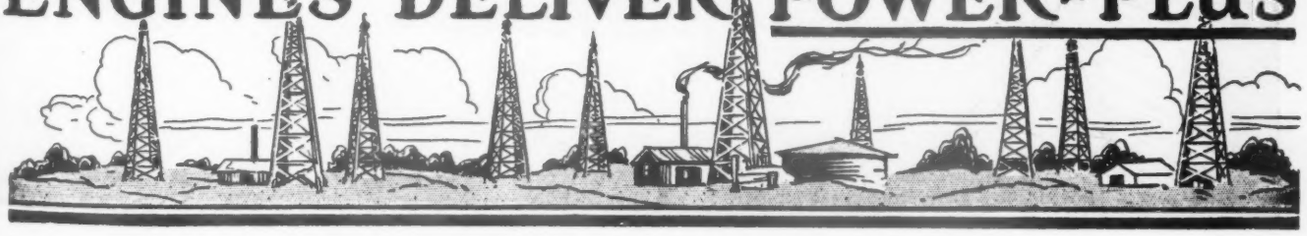

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Branches Throughout The Oil Fields

Markets--Production--Crude Prices

H. J. STRUTH, *Staff Economist, Houston, Texas*

California Decline Forces Drop in Production

FOR the first time since July 6, the upward trend of the United States daily average production curve has been broken. Production in the United States showed a 12,600-barrel decrease for the week ending August 10, compared with the previous week's daily average production. American Petroleum Institute estimates fix the daily average for United States for the week ending August 10 at 2,896,000 barrels.

Declines in California, Oklahoma and the Gulf Coast of Texas, in the order named, were principal factors in bringing the amount of oil recovered during the week down to 20,272,000 barrels, or, 88,200 barrels less than was recovered the week previous. An 8000-barrel drop in the daily average at Santa Fe Springs was largely responsible for California's bettered condition, while St. Louis and Logan County were mainly responsible for Oklahoma's decline. Spindle Top and Pierce Junction caused the drop in the Gulf Coast country.

Texas, outside of the Gulf Coast, was the only state to show a serious increase; production from fields comprising that district showing a daily average 4350 barrels higher than that established the week previous. Kansas and North Louisiana showed small gains which were more than offset by small losses elsewhere in the country. Eastern States production held firm at 125,100 barrels per day.

HOW LAST WEEK'S DAIY AVERAGE PRODUCTION COMPARES WITH AVERAGE OF 1928

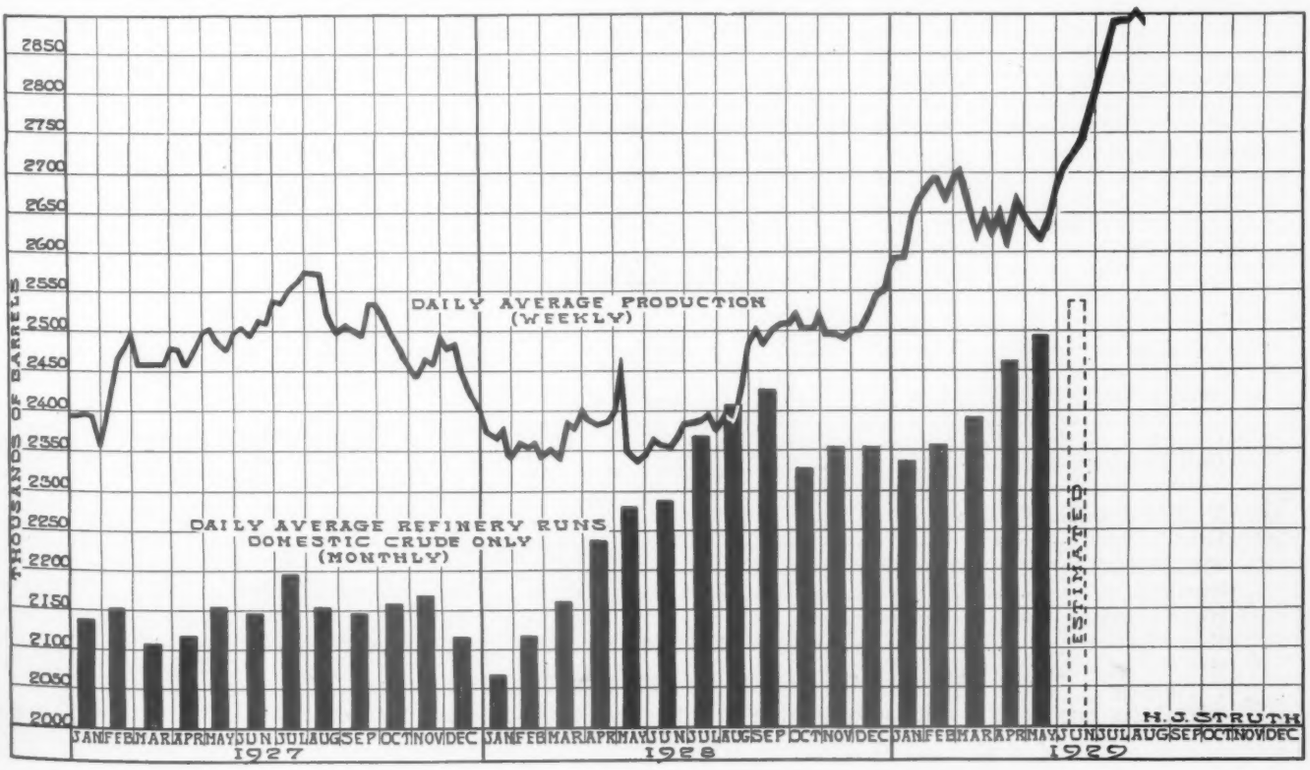
	Daily Av'ge Year 1928 (Bureau of Mines Data)	Daily Av'ge August 10,1929 (A. P. I. Wkly Prod. Rept.)	Excess
Oklahoma-Kansas	786,585	852,600	66,015
Texas-Louisiana-Arkansas	849,205	990,100	140,895
California	633,831	853,200	219,369
Balance of United States	190,391	200,100	9,709
Total United States	2,460,012	2,896,000	435,988
Mexico-Central and South America	561,339	609,249[2]	47,910
Grand total	3,021,351	3,505,249	483,898

[2]As of March 30, 1929—latest date available.

Oklahoma

The Oklahoma crude oil market remains unchanged, with prospects still looking as if a crude price cut is practically certain during the fall. The Okla-

DOMESTIC PRODUCTION AND REFINERY RUNS



CRUDE RUNS TO STILL, GASOLINE, AND GAS AND FUEL OIL STOCKS, WEEK ENDING AUGUST 3, 1929

(Barrels of 42 gallons)

Following are American Petroleum Institute figures showing refinery crude runs, gasoline stocks, and gas and fuel oil stocks, for the week ended June 29:

District—	Percent Potential Capacity Reporting	Crude Runs To Stills	Percent Operated of Total Capacity Reporting	Gasoline Stocks	Gas and Fuel Oil Stocks
East Coast	100.0	3,485,500	88.1	4,659,000	10,555,000
Appalachian	84.5	605,400	87.8	996,000	1,074,000
Ind., Ill., Ky.	98.7	2,143,800	94.3	5,857,000	3,673,000
Okla., Kans., Mo.	77.3	1,753,700	76.4	3,176,000	4,758,000
Texas	87.3	3,656,300	88.2	4,659,000	12,692,000
Louisiana-Arkansas	93.4	1,230,900	74.5	2,013,000	5,449,000
Rocky Mountain	90.4	442,200	52.6	1,687,000	666,000
California	98.4	5,178,900	89.5	12,097,000	104,919,000
Total Week August 3	92.6	18,496,700	85.5	35,144,000	143,786,000
Daily Average		2,642,400			
Total Week July 27	91.4	18,285,500	85.6	35,942,000	142,492,000
Daily Average		2,612,200			
Texas (Gulf Coast)	98.8	2,795,100	90.0	3,935,000	9,813,000
Louisiana (Gulf Coast)	100.0	870,000	80.2	1,749,000	4,588,000

homa City field, now considered the most troublesome area in the state, will shortly be at 65,000 barrels daily. However, only a few completions will come after the next seven or eight have been made, and its production should not go over this figure during the remainder of the year. This is encouraging, with other areas dropping off. Oklahoma production should not go over 750,000 to 760,000 barrels during the remainder of the year. The Oklahoma City field may prove a serious factor early in 1930, however, when a very large number of wells will be drilling in.

Group Three gasoline market, which has been very weak, strengthened slightly the past week as a result of more activity on the part of the buyers in both natural and motor gasoline. Curtailment of runs to stills is continuing and drafts from storage are being made, but prospects are for the area entering the low consuming period of winter with high stocks on hand. Some of the major companies have failed to reduce their prices for U. S. Motor gasoline below 7½ cents and some of those that dropped to 7¼ cents a gallon are now back to 7½ cents. Only a little gasoline is available at 7 cents.

California

The recent decline in California production has had little effect upon the crude market, and with a smaller consumption due during the fall and winter months a continued over-production is liable to aggravate the situation. The fact that light oil is going into storage and a freer floating supply of crude is in evidence are sufficient to put a rather nervous edge on all phases of the market.

Nearly all crude is now moving at the posted prices, where small premiums were paid before Santa Fe Springs rose to such high levels. The independent operators are willing to dispose of their oil at the posted prices, giving the purchasing companies a liberal amount of light oil for storage.

Total stocks of all petroleum products in California are expected to show a new peak when the figures as of August 1 are released. Both light and heavy oil were stored during the month and the surplus is continuing through August. The surplus of tankage is becoming low, with some of the companies topping the oil to lessen the worry.

Santa Fe Springs continues to pour out a production far in excess of actual needs and only a partial relief appears in sight. The decline will not be fast unless the state clamps down the lid on gas waste after September 1. The O'Connell zone promises to start a steady decline, but the lower Clarke series may go a long way toward checking the slump.

Although there has been no apparent break in the wholesale gasoline market in California, prices are showing a tendency to soften. A fairly wide spread exists between the bid and ask prices, with out-of-state shipments moving at around eight cents. Export gasoline is leaving Los Angeles harbor at a considerably lower figure.

Fuel oil is moving at a good rate, but the supply is in excess of the demand. This situation has placed the commodity in a weak position, with shipments moving at from 10 to 20 cents under the posted price.

As long as production runs above 850,000 barrels — or even 800,000 barrels — California will have a surplus to worry about which will ultimately result in lower crude prices.

A noticeable gain in volume of inquiries on quotations and actual sales of gasoline brought new hope for relief from an adverse market situation to the interior refineries of Texas during the past week. Trading has been sufficient to halt the downward trend of prices on refined products, and a number of plants have been successful in reducing their surplus stocks.

Sales of U. S. Motor gasoline in the North Texas district netted plant owners 6¾ to seven cents per gallon, while the West Texas plants are receiving from six to 6½ cents per gallon for this commodity.

Curbing crude runs to stills and suspension of operations by a number of plants have been beneficial to the North and West Texas refined oil market. Cosden Oil Company is reported to have sold

Details on Critical Fields

Pool—	Oil Wells Completed	Total Initial Production	Initial Per Well	Number Producing Wells	Daily Production Barrels	Daily Prod. Per Well	Rigs Up	Wells Drilling
WEST TEXAS:								
Hendrick	604	3,095,400	5,125	582	140,590	242[1]	1	14
Church & Fields	193	204,745	1,061	189	23,780	126	1	5
Gulf-McElroy	77	59,265	770	76	13,790	181	1	2
Yates	329	2,119,595	6,443	320	139,855	437[1]	3	15
TEXAS PANHANDLE:								
Gray County	425	281,265	662	410	75,600	184	8	101
OKLAHOMA:								
Seminole	2,594	2,906,471	1,120	2,036	369,704	181	47	170
CALIFORNIA:								
Santa Fe Springs[2]	286	1,040,000	3,636	167	260,000	1,556	30	220

[1]Pinched.
[2]Includes deep zone production only. For field total add 26,000 bbls. and 216 wells.

two 80,000-barrel steel tanks filled with distillates last week, thus indicating more active market in the making on this product. The latter company accumulated the distillates at its Big Spring plant during the dull market period.

Crude purchasing agencies in Texas are making special efforts to limit their takings in the various fields in the interior of the state because of widespread belief that a reduction in crude prices is in prospect. Several of the major companies are running oil for storage only in parts of the Texas Panhandle and North Texas districts, except when a regular customer is involved.

Gray County has developed a soft crude market situation because of crude purchasers limiting their takings, while another gain in production in this county the past week forced the pinching of wells by producers not adequately protected with a market outlet.

Tank car movement of crude from Gray County is now on the increase, and shipments were started last week on a large consignment to a refinery near Toronto, Canada.

Wilbarger County is the soft spot in the North Texas crude market situation, and some of the producers are forced to store a portion of their output on a monthly rental basis in the lines and tanks of the major pipe line companies.

West Texas crudes are no longer in popular demand with major pipe line companies, and storage oil is being offered at a fraction under posted gravity prices, while some six weeks ago this same oil was in great demand at a small premium that represented field gathering expense.

In the Yates field Mid-Kansas Oil & Gas Company has obtained partial relief from its surplus crude supply through an increase in deliveries to the Shell Pipe Line Company.

Mid-Continent A. P. I. Meeting Date Set

Tulsa.—The Mid-Continent district of the American Petroleum Institute, division of development and production engineering, will hold its fall meeting October 7 and 8, during the sixth International Petroleum Exposition in Tulsa, according to J. R. McWilliams, chairman of the district.

The program has not been completed, but the major portion of it will be devoted to the methods and results obtained by repressuring in the Mid-Continent area. Some of the exhibits at the oil show will be features at the meetings held in the new auditorium building.

1285-Barrels Initial In Humble Completions

Houston.—In the Humble field there were three completions during the past week. The Texas Company's Stevenson Fee 40 came in August 9 flowing 285 barrels daily on two five-eighths-inch chokes from 5224 feet, and its Landslide 263 was completed a gas well at 4984 feet. Humble Oil & Refining Company's Williams 2 was completed at 3740-74 feet for 1000 barrels initial production, but on August 13 the well was reported flowing 500 barrels daily.

Time for Administration of New Law Draws Near

LOS ANGELES.—The eyes of the entire country are on California—watching to see whether it will be possible for a state law to eliminate the waste of gas, and at the same time, bring oil production down to a sensible level. In many respects the new statute is unlike any ever passed by a legislature, and the success of the law will have an important bearing upon future legislation in other oil producing states.

When a force of oil men and engineers were framing the bill, opposition developed in several quarters. Regardless of the wording of the measure, the industry would more or less be placed under state supervision. It was only after the word "unreasonable" was placed in the bill that its passage was insured. In plain words, the gas waste must be unreasonable before state action takes place, and it is largely upon this "unreasonable" clause that operators who want to produce their wells at maximum will base their claims for a continued operation above actual requirements.

If it can be shown that it is necessary to blow gas into the air to produce the wells economically, all will be well and good, and Mr. Operator will be allowed to release this surplus to the atmosphere, according to one interpretation of the law. Where the waste is evident, however, as in fields like Santa Fe Springs and Ventura, no effort will be spared to effect a correction of such glaring examples.

Suits probably will be filed to restrain state action, but a law is a law, it has been contended, and where waste is needless or "unreasonable," the wells will be cut back.

A state of suspense has been built up by the announcement six weeks ago that operators would be given two full months in which to adjust themselves to the realization that gas waste must be stopped. As was suspected, the period has been used largely in producing wells wide open, rather than in experimenting to find the production level which would eliminate gas waste.

The breaking down of the conservation machine during the spring month has been used as an argument that the new state law will be difficult to enforce. It is conceded that much opposition will develop and that jealousy over the failure of many operators to comply with the law will be a factor.

Adoption of Duty on Petroleum Unlikely

WASHINGTON, D. C.—Although some effort may be made during debate of the bill to secure the adoption of a duty on petroleum, it is not anticipated that any strong fight will be made in view of the action of the senate finance committee in refusing to take oil from the free list. The house ways and means committee also had refused to grant a duty.

Adoption of the duty was urged before the finance committee, during the course of its hearings on the tariff bill, by representatives of the independent producers of the Mid-Continent field, aided by the two Oklahoma senators, Pine and Thomas. The committee was strongly influenced, however, it is believed, by the opposition of the United States Shipping Board, officials of which wrote that the duty would materially increase the price of fuel oil and thereby place still further disadvantages upon the American merchant marine, already handicapped in meeting foreign competition by the higher wages and strict laws which are in force here.

Blame for the action of the committee is laid at the door of Senator Reed Smoot of Utah, chairman, by Senator Thomas of Oklahoma, who declared that Smoot did not want to give the oil tariff advocates a hearing, and when he did consent, had it held before a "stacked" committee, "that is," Thomas explained, "members who are known to be opposed to such a tariff."

Both Senators Thomas and Pine have amendments pending in the senate for a duty of $1 per barrel on crude oil, but this is to be changed to a figure between 70 cents and $1, according to the difference between the cost of production here and abroad. Support for the fight is expected to be gained from senators from the oil and coal producing states.

"California will not be antagonistic to an oil tariff," Thomas said, "and Texas is the largest oil producing state. Other interests with us for a tariff on oil include the United Mine Workers of America and organized labor in general.

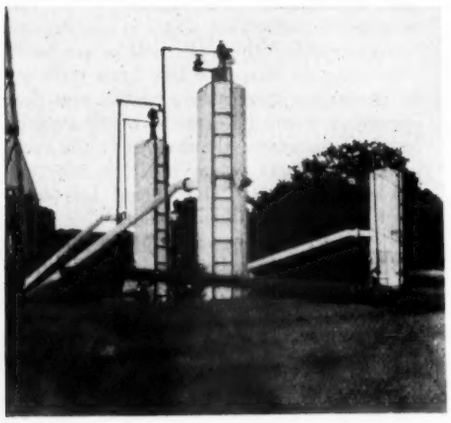
"The independent producers have no intention of relinquishing their fight," he declared, "and were in earnest when they threatened to call for an investigation of the books of the large oil companies if congress refused to provide a duty on oil. They are waging a fight for their very existence," he contended, "and if forced out of business the large companies would be in a position to fix prices to suit themselves."

MIST EXTRACTION

In the separation of oil and gas or gasoline and gas, highly atomized particles of high gravity oil or gasoline remains entrained in the gas after the bulk of separation has been made. The removing of these liquid particles, in the separator is commonly referred to as "Mist Extraction."

NATIONAL SEPARATORS are specially constructed to furnish efficient bulk separation of large or small volumes AND a series of central MIST EXTRACTION chambers are provided for extracting the "MIST" or liquid content of the gas.

TWO OUTSTANDING EXAMPLES



Three No. 4-A NATIONALS on the Watters No. 1 well in the Oklahoma City field.

These three NATIONALS handled 96,000,000 cubic feet of gas per day, from which they extracted 105,000 gallons of gasoline in 24 hours. The released gas contained only 15/100 gallons of gasoline per thousand cubic feet.

(Separator pressures did not exceed 350 pounds per square inch.)

The NATIONALS below are on Kinter No. 1 in the Oklahoma City field.

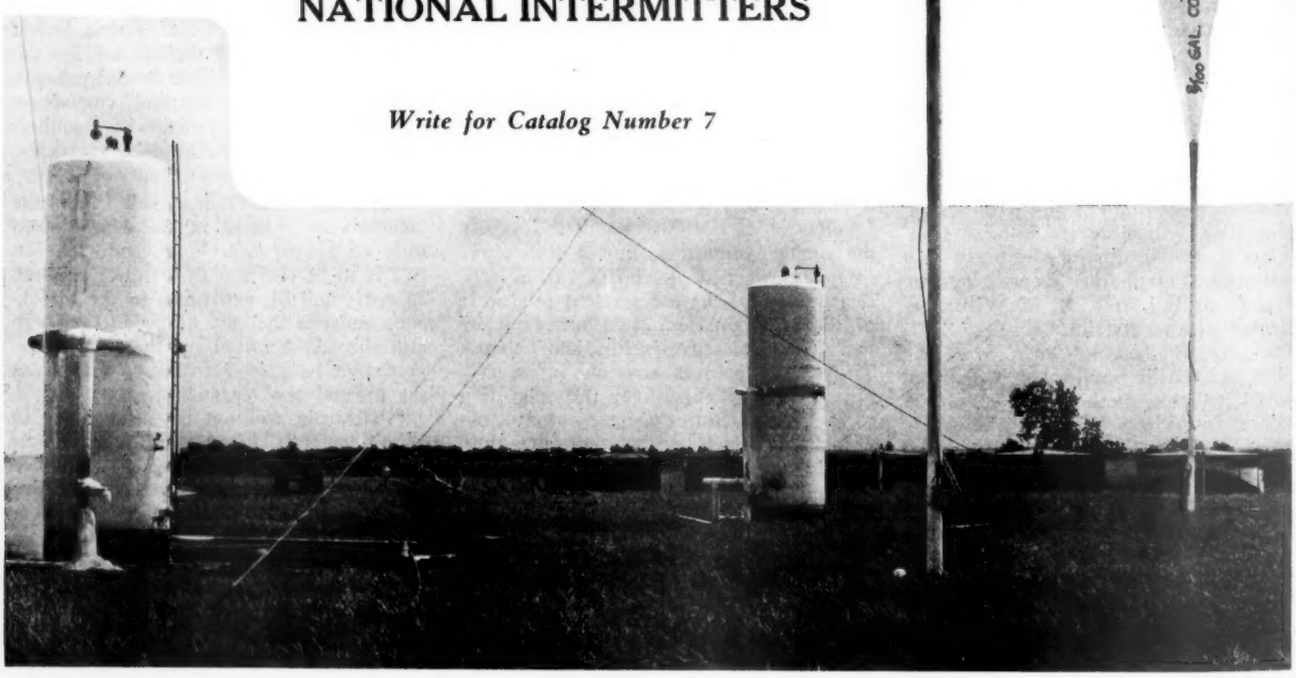
The No. 1 and No. 1-A NATIONALS handled 72,000,000 cubic feet of gas per day, from which they extracted 71,400 gallons of gasoline in 24 hours. Gas released by these separators contained only 9/100 gallons of gasoline per thousand cubic feet.

(Separator pressures not over 125 pounds per square inch.)

NATIONAL OIL & GAS SEPARATORS

NATIONAL INTERMITTERS

Write for Catalog Number 7



NATIONAL TANK COMPANY

TULSA, OKLA.

United States Daily Average Production

Figures below are taken from the complete revised estimates of the AMERICAN PETROLEUM INSTITUTE except for the current week, which are advance estimates issued by the A. P. I. and are subject to revision:

1928	Oklahoma	Kansas	Texas (Outside Gulf Coast)	Gulf Coast	North Louisiana	Arkansas	Eastern States	Rocky Mountain	California	United States Daily Av.	United States Total
March	646,850	112,250	575,850	119,900	44,400	85,600	102,150	78,700	617,450	2,383,150	73,877,650
April	620,450	112,150	617,850	118,850	46,900	83,450	107,000	78,500	613,550	2,398,700	71,961,100
May	610,100	108,750	561,450	129,850	43,600	91,250	112,100	82,200	630,900	2,370,200	73,476,300
June	594,850	105,200	554,400	135,400	42,350	102,850	109,300	82,400	643,400	2,370,150	71,104,500
July	587,150	102,750	597,250	133,650	42,150	90,700	113,400	80,400	644,700	2,392,150	74,156,600
August	656,350	102,200	604,000	130,200	40,200	87,500	113,300	77,700	634,150	2,445,600	75,534,600
September	724,850	99,750	604,150	129,500	39,050	84,700	112,550	78,850	631,650	2,505,050	75,151,500
October	741,350	97,900	598,550	129,950	38,800	83,550	114,000	83,300	624,450	2,511,850	77,867,800
November	715,750	96,600	586,350	135,100	38,600	83,000	109,700	81,150	653,050	2,499,300	74,978,300
December	710,600	97,200	603,700	135,050	37,300	81,350	113,450	74,600	697,850	2,551,100	79,084,400
1929											
January	722,550	97,150	632,500	136,750	36,650	78,600	111,950	73,200	747,250	2,635,600	81,703,600
February	714,800	95,950	643,350	142,300	35,700	74,600	108,550	71,750	797,800	2,684,800	75,204,400
March	666,500	95,500	662,500	147,750	35,800	74,250	108,850	70,400	786,000	2,647,400	82,068,350
April	665,600	106,400	650,100	154,550	35,550	72,900	110,850	69,400	781,350	2,646,700	79,402,100
May	679,650	115,400	651,100	150,350	35,350	71,500	114,150	72,850	749,250	2,639,600	81,827,600
June	685,200	120,750	688,200	147,500	35,700	70,050	116,750	72,000	827,200	2,763,400	82,902,250
July 6	717,800	122,400	696,100	147,250	35,050	69,250	119,100	71,850	878,600	2,857,400	20,001,800
July 13	720,900	121,300	715,200	151,150	35,700	69,150	120,900	74,850	882,600	2,891,750	20,242,250
July 20	717,700	125,000	723,800	146,500	36,150	68,650	122,000	73,850	880,300	2,893,950	20,257,650
July 27	726,500	126,700	729,050	145,400	36,100	68,200	123,800	75,300	865,600	2,896,650	20,276,550
August 3	730,050	126,650	733,600	151,900	35,700	67,800	125,100	75,500	862,300	2,908,600	20,360,200
August 10	724,400	128,200	737,950	148,850	36,000	67,300	125,100	75,000	853,200	2,896,000	20,272,000
Increase	.....	1,550	4,350	.....	300	.....	.....	.....	.....	.....	.....
Decrease	5,650	.....	.....	3,050	.....	500	.....	500	9,100	12,600	88,200

TEXAS
(Outside Gulf Coast)
PANHANDLE DISTRICT

	Aug. 10	Aug. 3
Carson County	9,250	8,300
Gray County	72,500	62,100
Hutchinson County	25,950	25,700
Wheeler County	950	700
Others	1,200	1,100
Total	109,850	97,900

NORTH TEXAS

Archer County	19,000	19,750
Burkburnett	8,650	8,750
Electra	11,600	11,800
Iowa Park-KMA	4,400	4,600
Montague and Cooke Cos.	14,850	12,900
Wilbarger	29,150	28,750
Others	700	750
Total	88,350	87,300

WEST CENTRAL TEXAS

Brown County	7,800	7,900
Callahan County	4,200	4,250
Coleman County	5,800	6,000
Eastland-Desdemona	7,200	7,400
Jack County	3,300	3,100
Palo Pinto County	350	300
Shackelford County	10,800	11,000
Stephens County	6,800	6,850
Throckmorton County	700	800
Young County	10,250	10,700
Others	700	700
Total	57,900	59,050

WEST TEXAS

Crane-Upton Counties	45,300	45,600
Crockett County	2,000	2,000
Howard County	40,000	41,400
Jones County	3,300	3,400
Mitchell-Scurry Cos.	2,600	2,600
Pecos County	135,000	138,400
Reagan County	17,800	17,900
Winkler County	140,000	140,300
Others	1,500	1,400
Total	387,500	393,000

EAST CENTRAL TEXAS

Boggy Creek	2,700	2,800
Corsicana-Powell	7,200	7,350
Curie	400	400
Mexia	5,100	5,250
Nigger Creek	300	300
Richland	350	350
Wortham	900	1,000
Total	16,950	17,450

SOUTHWEST TEXAS

Dale	350	400
Laredo District	10,750	11,000
Luling	11,000	11,100
Lytton Springs	950	1,000
Somerset	1,300	1,400
Salt Flat	48,250	49,000
Others	4,800	5,000
Total	77,400	78,900
Ttl Tex. (Outside Gulf Coast)	737,950	733,600

TEXAS GULF COAST

Barbers Hill	13,700	11,600
Batson	1,300	1,300
Big Creek	3,250	2,900
Blue Ridge	2,800	2,950
Boling	1,500	1,400
Damon Mound	600	600
Goose Creek	5,550	5,750
Hull	8,000	7,950
Humble	5,900	5,300
Orange County	2,800	2,750
Pierce Junction	16,500	19,700
Raccoon Bend	7,900	7,650
Saratoga	950	950
Somerville	2,500	...
Sour Lake	2,700	2,700
South Liberty	5,700	6,400
Spindle Top	25,100	27,100
Sugar Land	11,400	11,900
West Columbia	6,300	6,200
Clay Creek	...	2,250
Washington County	...	...
Others	4,200	4,400
Total	128,650	131,750
Texas Total	866,600	865,350

OKLAHOMA

Asher	11,200	11,350
Carr City	13,150	13,850
Logan Co.	21,000	23,850
Braman	3,950	3,950
Blackwell	3,800	3,800
Hubbard	1,800	1,700
Thomas	850	850
Tonkawa	9,200	9,300
Garber	5,700	5,650
Burbank	18,950	19,350
Osage (outside Burbank)	26,400	26,350
Cushing	18,500	18,500
Yale Jennings	7,050	7,050
Davenport	1,400	1,350
Bristow Slick	20,800	21,000
North Okmulgee	12,650	12,700
Lyons Deaner	8,300	8,300
Cromwell	8,000	8,000
Papoose	3,250	3,250
Wewoka	4,650	4,700
Seminole	33,250	34,000
East Seminole	4,900	5,100
Bowlegs	33,550	34,250
Searight	12,100	11,400
Little River	79,150	77,300
Earlsboro	81,750	82,500
Duncan District	7,450	7,450
Graham	4,300	4,350
Fox	1,400	1,400
Healdton	13,150	13,100
Hewitt	7,850	7,850
Scholem Alechem	12,700	12,700
Pearson	1,200	1,200
St. Louis	70,400	73,850
Allen	25,200	24,350
Maud	13,000	12,750
Mission	28,500	30,150
Oklahoma City	32,950	30,500
Others	61,000	61,000
Total	724,400	730,650

CALIFORNIA

Santa Fe Springs	260,000	268,000
Long Beach	169,000	170,000
Huntington Beach	44,500	43,500
Torrance	12,600	12,600
Dominguez	10,000	10,000
Rosecrans	6,600	6,700
Inglewood	23,500	23,500
Midway-Sunset	68,500	67,000
Ventura Avenue	57,000	56,500
Seal Beach	47,500	48,000
Elwood-Goleta	23,500	26,000
Kettleman Hills	4,000	4,000
Others	126,500	126,500
Total	853,200	862,300

ARKANSAS

El Dorado	4,600	4,600
Champagnolle	7,050	7,050
Smackover Light	6,000	6,100
Smackover Heavy	46,350	46,750
Stephens	1,000	1,000
Nevada	1,000	1,000
Lisbon	1,200	1,200
Others	100	100
Total	67,300	67,800

KANSAS

	Aug. 10	Aug. 3
Greenwood County	20,400	20,500
Florence-Covert	950	950
Peabody-Ebling	4,100	3,350
Eldorado-Towanda	13,050	13,050
Augusta-Fox Bush	3,100	3,100
Rainbow Bend	1,050	1,050
Russell	3,200	3,100
Churchill	7,200	7,250
Oxford	4,300	4,350
Sedgewick	36,350	35,650
Others	34,500	34,300
Total	128,200	126,650

NORTH LOUISIANA

Homer	3,900	3,850
Haynesville	5,050	4,850
Caddo Light	9,350	9,200
Caddo Heavy	3,300	3,350
DeSoto-Red River	3,650	3,650
Elm Grove	500	550
Bellevue	650	600
Cotton Valley	2,400	2,500
Urania	6,400	6,400
Pleasant Hill	550	500
Others	250	250
Totals North Louisiana	36,000	35,700

LOUISIANA GULF COAST

Bayou Boullion	200	200
East Hackberry	2,400	2,500
Hackberry	1,900	2,100
Edgerly	750	700
Evangeline	2,300	2,300
Lockport	3,500	3,100
Sorrento	200	200
Sulphur Dome	3,300	3,500
Sweet Lake	50	50
Vinton	4,200	4,400
Others	1,400	1,100
Total Louisiana Gulf Coast	20,200	20,150
Louisiana Total	56,200	55,850

WYOMING

Salt Creek	30,250	31,100
Grass Creek	2,150	2,300
Elk Basin	800	800
Big Muddy	2,300	2,300
Lost Soldier	3,900	4,150
Rock River	2,450	2,400
Lance Creek	200	250
Oregon Basin	5,900	4,950
La Barge	2,350	2,200
Others	3,800	3,950
Total	54,100	54,400

MONTANA

Cat Creek	1,450	1,400
Sunburst	6,950	6,950
Pondera	3,000	2,950
Others	100	100
Total	11,500	11,400

COLORADO

Moffats (Craig)	1,100	1,250
Fort Collins	2,450	2,500
Florence	900	850
Others	2,300	2,200
Total	6,750	6,800

NEW MEXICO

Table Mesa	...	...
Artesia	850	850
Hogback	100	100
Rattlesnake	1,250	1,500
Others	450	450
Totals	2,650	2,900
Total Mountain States	75,000	75,500

EASTERN STATES

(Including Ill., Ind., Ohio, W. Va., Pa., Ky., and N. Y.)	125,100	125,100

PRODUCTION SUMMARY

East of Rockies	1,967,800	1,970,800
Total U. S.	2,896,000	2,908,600

CRUDE OIL PRICE QUOTATIONS

Revised August 13, 1929

EASTERN STATES
(Effective August 1, 1929)

Penna Grade Oil in New York Transit Lines (New York)	$3.55
Bradford District Oil in National Transit Lines (Pennsylvania)	3.55
Penna Grade Oil in National Transit Lines (Pennsylvania)	3.50
Penna Crude Oil in Southwest Pennsylvania Lines (West Virgina)	3.50
Penna Grade Oil in Eureka Pipe Line Lines (Pennsylvania)	3.40
Penna Grade Oil in Buckeye Pipe Line Lines (Ohio)	3.50
Cabell Grade Oil in Eureka Pipe Line Lines (West Virginia)	1.35
Corning 35-cent Grade Oil in Buckeye Pipe Line Co.'s lines	1.80
Corning 25-cent Grade Oil in Buckeye Pipe Line Co.'s lines	1.75
Somerset Oil in Cumberland Pipe Line lines (Kentucky)	1.50
Ragland Grade Oil in Cumberland Pipe Line lines (Kentucky) (Effective Jan. 29, 1929)	60
Keister (Pennsylvania)	1.20

CENTRAL STATES
(Effective May 21, 1929)
Posted by Ohio Oil Co.

Illinois	1.75
Indiana	1.57
Lima	1.80
Plymouth	1.28
Princeton	1.75
Waterloo	1.25
Wooster	1.90

WESTERN KENTUCKY

All grades	1.83

MID-CONTINENT
(Effective May 21, 1929)
Magnolia Petroleum Company

Under 26	.70
26 to 26.9 gravity	.75
27 to 27.9 gravity	.85
28 to 28.9 gravity	.90
29 to 29.9 gravity	.95
30 to 30.9 gravity	1.05
31 to 31.9 gravity	1.15
32 to 32.9 gravity	1.25

From 33 to 44 gravity and above, Magnolia Petroleum Company prices are the same as those of Carter Oil Company.

MID-CONTINENT
(Effective May 20, 1929)
Carter Oil Company, Gulf Pipe Line Company, Sinclair Pipe Line Company, Prairie Oil and Gas Company and The Texas Company

25 to 25.9 gravity	.90
26 to 26.9 gravity	.95
27 to 27.9 gravity	1.00
28 to 28.9 gravity	1.05
29 to 29.9 gravity	1.10
30 to 30.9 gravity	1.15
31 to 31.9 gravity	1.20
32 to 32.9 gravity	1.25
33 to 33.9 gravity	1.30
34 to 34.9 gravity	1.35
35 to 35.9 gravity	1.40
36 to 36.9 gravity	1.45
37 to 37.9 gravity	1.50
38 to 38.9 gravity	1.55
39 to 39.9 gravity	1.60
40 to 40.9 gravity	1.65
41 to 41.9 gravity	1.70
42 to 42.9 gravity	1.75
43 to 43.9 gravity	1.80
44 and above	1.85

PANHANDLE
(Effective May 20, 1929)
GRAY COUNTY
(Humble Oil & Refining Company, Magnolia Petroleum Company, Gulf Pipe Line Company

Below 29 gravity	.90
29 to 29.9 gravity	.95
30 to 30.9 gravity	1.00
31 to 31.9 gravity	1.05
32 to 32.9 gravity	1.10
33 to 33.9 gravity	1.15
34 to 34.9 gravity	1.20
35 to 35.9 gravity	1.25
36 to 36.9 gravity	1.30
37 to 37.9 gravity	1.35
38 to 38.9 gravity	1.40
39 to 39.9 gravity	1.45
40 to 40.9 gravity	1.50
41 to 41.9 gravity	1.55
42 to 42.9 gravity	1.60
43 to 43.9 gravity	1.65
44 and above	1.70

WHEELER COUNTY
(Humble Oil and Refining Company and Magnolia Petroleum Company)

Below 30 gravity	.90
30 to 30.9 gravity	.95
31 to 31.9 gravity	1.00
32 to 32.9 gravity	1.05
33 to 33.9 gravity	1.10
34 to 34.9 gravity	1.15
35 to 35.9 gravity	1.20
36 to 36.9 gravity	1.25
37 to 37.9 gravity	1.30
38 to 38.9 gravity	1.35
39 to 39.9 gravity	1.40
40 to 40.9 gravity	1.45
41 to 41.9 gravity	1.50
42 to 42.9 gravity	1.55
43 to 43.9 gravity	1.60
44 and above	1.65

CARSON-HUTCHINSON COUNTIES
(Humble Oil and Refining Company, Magnolia Petroleum Company and Gulf Pipe Line Company)

Below 32 gravity	.90
32 to 32.9 gravity	.95
33 to 33.9 gravity	1.00
34 to 34.9 gravity	1.05
35 to 35.9 gravity	1.10
36 to 36.9 gravity	1.15
37 to 37.9 gravity	1.20
38 to 38.9 gravity	1.25
39 to 39.9 gravity	1.30
40 to 40.9 gravity	1.35
41 to 41.9 gravity	1.40
42 to 42.9 gravity	1.45
43 to 43.9 gravity	1.50
44 and above	1.55

SOMERSET
Grayburg

Below 33 gravity	1.05
33 to 33.9 gravity	1.07
34 to 34.9 gravity	1.09
35 to 35.9 gravity	1.11
36 to 36.9 gravity	1.13
37 to 37.9 gravity	1.15
38 and above	1.17

CALIFORNIA CRUDE OIL PRICES AT THE WELL
(EFFECTIVE JANUARY 18, 1929)

Following are the current prices offered by Standard Oil Company for crude oil at the well: (Price per barrel of 42 gallons in fields indicated)

Gravity	Ventura*	Signal Hill	Alamitos Heights-Seal Beach	Huntington Beach	Inglewood	Olinda-Brea Canon	Athens-Rosecrans Dominguez	Elwood† Terrace	Torrance	Richfield	Whittier La Habra	Montebello	Coyote Hills	Santa Fe Springs	Newhall McKittrick Kern River	Midway-Sunset Elks Hills	Buena Vista Hills	Lost Hills	Coalinga	Wheeler Ridge
14-14-9	$ .85	$ .70	$ .70	$ .70	$ .70	$ .70	$ ..	$ ..	$ .70	$ .70	$ .70	$ .70	$ .70	..	$ .50	$ .50	$ .50	$ .50	$ .50	$ .50
15-15-9	.85	.70	.70	.70	.70	.70	..	..	.70	.70	.70	.70	.70	..	.50	.50	.50	.50	.50	.50
16-16-9	.85	.70	.70	.70	.70	.70	..	..	.70	.70	.70	.70	.70	..	.50	.50	.50	.50	.50	.50
17-17-9	.85	.70	.70	.70	.70	.70	..	..	.70	.70	.70	.70	.70	..	.50	.50	.50	.50	.50	.50
18-18-9	.85	.75	.75	.75	.75	.75	..	..	.75	.75	.75	.70	.75	..	.50	.56	.56	.56	.56	.56
19-19-9	.85	.80	.80	.80	.80	.80	..	..	.80	.80	.80	.75	.80	..	.50	.62	.62	.62	.62	.62
20-20-9	.85	.85	.85	.85	.85	.85	..	..	.85	.85	.84	.80	.84	..	..	.68	.68	.68	.68	.68
21-21-9	.86	.89	.89	.89	.89	.89	..	..	.89	.89	.88	.85	.88	.89	..	.74	.74	.74	.74	.74
22-22-9	.87	.93	.93	.93	.93	.93	..	..	.93	.93	.91	.90	.91	.92	..	.80	.80	.80	.80	.80
23-23-9	.90	.97	.97	.97	.97	.97	..	..	.97	.97	..	.95	.94	.95	..	.85	.85	.85	.85	.85
24-24-9	.94	1.01	1.01	1.01	1.01	1.01	1.01	..	1.01	1.01	..	.98	.97	.98	..	.90	.90	.90	.88	.88
25-25-9	.98	1.05	1.05	1.05	1.05	1.05	1.05	..	1.05	1.05	..	1.01	1.00	1.01	..	.95	.95	.95	.91	.91
26-26-9	1.02	1.09	1.09	1.09	1.09	1.09	1.09	..	1.09	1.09	..	1.04	1.04	1.04	..	1.00	1.00	1.00	.94	.94
27-27-9	1.06	1.13	1.13	1.13	1.13	1.13	1.13	..	1.13	1.13	..	1.07	1.08	1.07	..	1.05	1.05	1.05	.98	.97
28-28-9	1.10	1.17	1.17	1.17	1.17	1.17	1.17	..	1.17	1.17	..	1.10	1.12	1.10	..	1.10	1.10	1.10	1.02	..
29-29-9	1.14	1.21	1.21	1.21	..	1.21	1.21	..	..	1.21	..	1.13	1.16	1.15	..	1.16	1.16	1.16	1.06	..
30-30-9	1.18	1.25	1.25	1.25	..	1.25	1.25	..	..	1.25	..	1.16	1.20	1.20	..	1.22	1.22	1.22	1.10	..
31-31-9	1.23	1.30	1.30	1.30	..	..	1.30	..	..	..	..	..	..	1.25	..	1.28	1.28	1.28	1.14	..
32-32-0	1.28	1.35	1.35	1.35	..	..	1.35	..	..	..	..	..	..	1.30	..	1.34	1.34	1.34	1.18	..
32-32-9	..	..	..	..	..	..	1.41	..	..	..	..	..	..	1.35	..	1.40	1.40	1.40	1.22	..
34-34-9	..	..	..	..	..	..	1.47	1.16	..	..	..	..	..	1.40	..	..	..	1.46	1.26	..
35-35-9	..	..	..	..	..	..	1.53	1.22	..	..	..	..	..	1.45	..	..	..	..	1.30	..
36-36-9	..	..	..	..	..	..	1.59	1.28	..	..	..	..	..	1.50	..	..	..	..	..	..
37-37-9	..	..	..	..	..	..	1.65	1.34	..	..	..	..	..	1.55	..	..	..	..	..	..
38-38-9	..	..	..	..	..	..	1.71	1.40	..	..	..	..	..	1.60	..	..	..	..	..	..
39-39-9	..	..	..	..	..	..	1.77	1.46	..	..	..	..	..	1.65	..	..	..	..	..	..
40-40-9	..	..	..	..	..	..	1.83	1.52	..	..	..	..	..	..	..	..	..	..	..	..
41-41-9	..	..	..	..	..	..	1.89	1.58	..	..	..	..	..	..	..	..	..	..	..	..
42-42-9	..	..	..	..	..	..	1.95	1.64	..	..	..	..	..	..	..	..	..	..	..	..

KETTLEMAN HILLS—55 degrees Gravity and above $1.65 per barrel. *Union Oil Company. †Changed March 18, 1929.

(See Page 46)

NATIONAL ADVERTISING

helps build your REPUTATION *and* PRESTIGE *in your locality...*

"He's a jolly good fellow!"... the dealer who carries nationally advertised products is a good fellow in his community—respected and trusted. When his neighbors read the advertising for his products, they think of him—and think *well* of him.

The dealer automatically shares in the reputation the producer creates through advertising. He shares, too, the good will behind the advertiser's trade mark and product.

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Atlanta ✎ *Boston* ✎ *Chicago* ✎ *Houston* ✎ *Kansas City*

SINCLAIR OPALINE

REG. U.S. PAT. OFF.

is NATIONALLY ADVERTISED AS THE *Extra Service* MOTOR OIL

CRUDE OIL PRICE QUOTATIONS (*Continued from Page 44*)

WEST TEXAS
(Humble, Gulf, Magnolia, The Marland Company and Southern Crude Oil Purchasing Company)*

Crane-Upton, Crockett, Howard, Pecos and Winkler Counties and Lea County, N. Mex.

Below 25 gravity	.70
25 to 25.9 gravity	.74
26 to 26.9 gravity	.78
27 to 27.9 gravity	.82
28 to 28.9 gravity	.86
29 to 29.9 gravity	.90
30 to 30.9 gravity	.94
31 to 31.9 gravity	.98
32 to 32.9 gravity	1.02
33 to 33.9 gravity	1.06
34 to 34.9 gravity	1.10
35 to 35.9 gravity	1.14
36 and above	1.18

*Gulf does not post in Winkler County; Magnolia posts in Crane, Upton and Winkler Counties. Southern Crude Oil Purchasing Company posts only in Crane, Upton and Winkler Counties.

MARKHAM
The Texas Company
(Effective May 20, 1929)

All grades	$1.00

LULING

All grades	.90

NORTH AND CENTRAL TEXAS
(Effective May 21, 1929)

Ranger, North Texas, Mexia, Powell, Richland, Wortham, Currie, Moran, Nocona and Lytton Springs Crude
(Humble Oil and Refining Company)

Below 25	.85
25 to 25.9 gravity	.90
26 to 26.9 gravity	.95
27 to 27.9 gravity	1.00
28 to 28.9 gravity	1.05
29 to 29.9 gravity	1.10
30 to 30.9 gravity	1.15
31 to 31.9 gravity	1.20
32 to 32.9 gravity	1.25
33 to 33.9 gravity	1.30
34 to 34.9 gravity	1.35
35 to 35.9 gravity	1.40
36 to 36.9 gravity	1.45
37 to 37.9 gravity	1.50
38 to 38.9 gravity	1.55
39 to 39.9 gravity	1.60
40 to 40.9 gravity	1.65
41 to 41.9 gravity	1.70
42 to 42.9 gravity	1.75
43 to 43.9 gravity	1.80
44 and above	1.85

SOUTH TEXAS

Mirando	.90
Salt Flat	1.25

GULF COAST
(Effective May 21, 1929)

Grade "A" all companies	1.30
Gulf Coast Light Oil, below 25	1.15
25 to 25.9 gravity	1.18
26 to 26.9 gravity	1.21
27 to 27.9 gravity	1.24
28 to 28.9 gravity	1.27
29 to 29.9 gravity	1.30
30 to 30.9 gravity	1.33
31 to 31.9 gravity	1.36
32 to 32.9 gravity	1.39
33 to 33.9 gravity	1.42
34 to 34.9 gravity	1.45
35 to 35.9 gravity	1.48
36 to 36.9 gravity	1.51
37 to 37.9 gravity	1.54
38 to 38.9 gravity	1.57
39 to 39.9 gravity	1.60
40 and above	1.63

*Humble Oil & Refining Company's postings on Gulf Coast Light stop at 35 to 35.9. Its price on all crudes above 35 to $1.37 per barrel.

Magnolia Petroleum Company's postings stop at 31 to 31.9.

WYOMING-MONTANA
(Effective May 21, 1929)
Wyoming

Byron	1.33
Ferris	1.60
Elk Basin	1.65
Grass Creek	1.65
Rock Creek	1.40
Lost Soldier	1.05
Lance Creek	1.68
Mule Creek	1.20
Notches	.65
Big Muddy	1.43
Osage	1.38
Hamilton Dome	.85
Pilot Butte	1.75
Torchlight-Greybull	1.48
Lander	.80
Rex Lake	1.10
South Casper Creek-Poison Spider	1.00

Salt Creek
Midwest Refining Company

29 to 29.9 gravity	.90
30 to 30.9 gravity	.96
31 to 31.9 gravity	1.02
32 to 32.9 gravity	1.08
33 to 33.9 gravity	1.11
34 to 34.9 gravity	1.14
35 to 35.9 gravity	1.17
36 to 36.9 gravity	1.20
37 and above	1.23

MONTANA
(Effective May 24)

Sunburst	$1.75
Cat Creek	1.48
Lake Basin	2.20

NEW MEXICO

Artesia	1.08
Hogback	1.43

CANADA
(Effective May 21, 1929)

Oil Springs	2.27
Petrolia	2.20

LOUISIANA-ARKANSAS
(Effective May 22, 1929)

Homer, Haynesville, Caddo, El Dorado, De Soto and Crichton and Cotton Valley*
(Atlantic Oil Producing Company, Standard of Louisiana, Magnolia Petroleum Company and The Texas Company.)

27 to 27.9 gravity	$1.00
28 to 28.9 gravity	1.05
29 to 29.9 gravity	1.10
30 to 30.9 gravity	1.15
31 to 31.9 gravity	1.20
32 to 32.9 gravity	1.25
33 to 33.9 gravity	1.30
34 to 34.9 gravity	1.35
35 to 35.9 gravity	1.40
36 to 36.9 gravity	1.45
37 to 37.9 gravity	1.50
38 to 38.9 gravity	1.55
39 to 39.9 gravity	1.60
40 to 40.9 gravity	1.65
41 to 41.9 gravity	1.70
42 to 42.9 gravity	1.75
43 to 43.9 gravity	1.80
44 gravity and above	1.85

*Shreveport-Eldorado's postings stop at above 40 gravity.

The posting on Cotton Valley is same as Caddo. From 36 to 52 and above the regular gravity schedule is followed.

The Texas Company pays North Texas gravity scale in North Louisiana.

STEPHENS
(All Companies)

Below 28 gravity	.90
28 to 28.9 gravity	.94
29 to 29.9 gravity	.98
30 to 30.9 gravity	1.02
31 to 31.9 gravity	1.06
32 gravity and above	1.10

SMACKOVER
(All Companies)

Below 24 gravity	.85
24 and above	1.00
Bellevue	1.30
Jennings	1.15
Vinton	1.30
Edgerly	1.30
Starks Dome	1.30
Urania	1.00
Calion	.75

IMPORTS OF PETROLEUM AT PRINCIPAL UNITED STATES PORTS
(Barrels of 42 gallons)

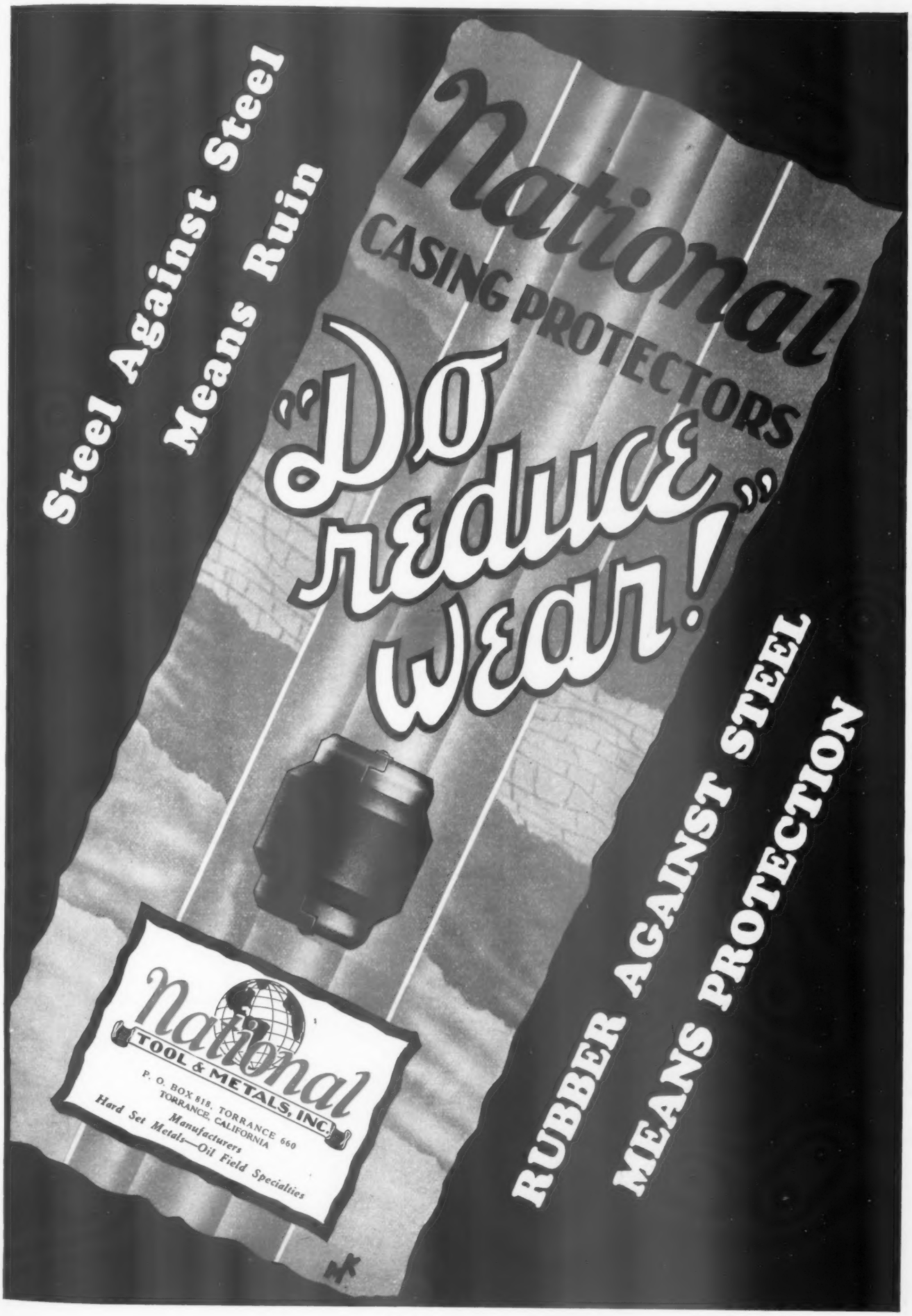
	Total Mo. July	Total Mo. June	Week Ended August 3	Week Ended July 27
AT ATLANTIC COAST PORTS—				
Baltimore	1,243,000	943,000	248,000	338,000
Boston	469,000	260,000	99,000	161,000
New York	3,462,000	4,038,000	1,086,000	903,000
Philadelphia	1,346,000	1,289,000	156,000	253,000
Others	977,000	549,000	68,000	*437,000
Total	7,497,000	7,079,000	1,657,000	2,092,000
Daily Average	241,839	235,967	236,714	298,857
AT GULF COAST PORTS—				
Galveston District	148,000	258,000	65,000	.....
New Orleans & Baton Rouge	375,000	679,000	.....	53,000
Port Arthur & Sabine District	295,000	354,000	.....	.....
Tampa	5,000	61,000	23,000	4,000
Total	823,000	1,352,000	88,000	57,000
Daily Average	26,548	45,066	12,572	8,143
AT ALL UNITED STATES PORTS—				
Total	8,320,000	8,431,000	1,745,000	2,149,000
Daily Average	268,387	281,033	249,286	307,000

* Revised.

CALIFORNIA OIL RECEIPTS AT ATLANTIC AND GULF COAST PORTS
(Barrels of 42 gallons)

AT ATLANTIC COAST PORTS—	Total Mo. July	Total Mo. June	Week Ended August 3	Week Ended July 27
Baltimore	477,000	446,000	170,000	31,000
Boston	149,000	95,000	79,000	.....
New York	1,063,000	693,000	394,000	217,000
Philadelphia	601,000	309,000	257,000	80,000
Others	76,000	*230,000	.....	.....
Total	2,366,000	1,773,000	900,000	328,000
Daily Average	76,323	59,100	128,571	46,857
AT GULF COAST PORTS—				
Total	129,000	.....	.....	129,000
Daily Average	4,161	.....	.....	18,428
AT ATLANTIC AND GULF COAST PORTS—				
Total	2,495,000	1,773,000	900,000	457,000
Daily Average	80,484	59,100	128,571	65,285
Distribution of Total California Oil Receipts is as Follows:				
Crude	373,000	96,000	79,000	129,000
Gasoline	1,977,000	*1,596,000	821,000	328,000
Kerosene Dist.	76,000	81,000	.....	.....
Gas Oil	.....	.....	.....	.....
Fuel Oil	.....	.....	.....	.....
Lubricants	69,000	.....	.....	.....
Total	2,495,000	1,773,000	900,000	457,000

* Revised.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Means Ruin
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"Do reduce wear!"
RUBBER AGAINST STEEL
MEANS PROTECTION
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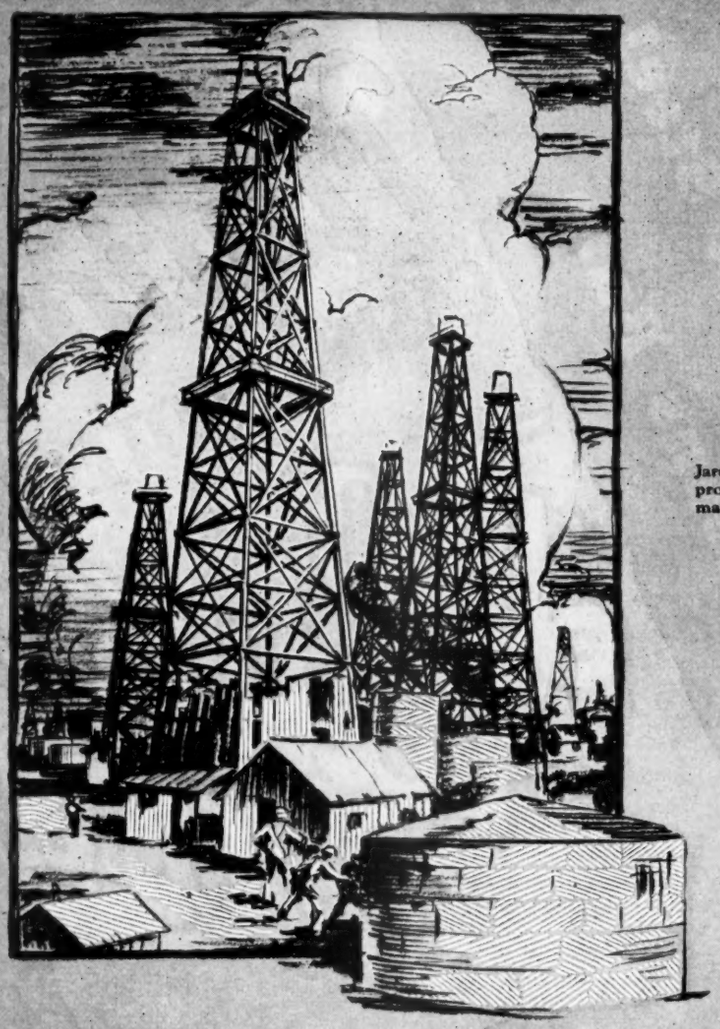
Manufacturers
Hard Set Metals—Oil Field Specialties

Wherever oil is found in the United States, the Jarecki Diamond "J" is accepted as a symbol of dependability.



Jarecki Valves, like all Jarecki products, are designed and made by men who know oil industry conditions.

If It's Used Here

You'll Find It in the JARECKI *Line*

The JARECKI organization is an outstanding one in its field largely because customers find it so *convenient* and *economical* to do business here. Stocks are always complete—design and workmanship always dependable. Each sale adds to and helps to maintain the 77-year reputation that JARECKI enjoys. . . . . For exactly the same reason, you also will find it profitable to make the nearest JARECKI store your headquarters for "Everything Used or Needed About an Oil or Gas Lease."

Jarecki

MANUFACTURING COMPANY

General Office, St. Louis, Mo. Home Office and Factory—Erie, Pa., U. S. A.

Branch stores at all important places in the Oil Country.

District Offices { Pittsburgh, Pa.; El Dorado, Kan.; Tulsa, Okla.; Newark, Ohio; Eastland and Dallas, Texas; Lawrenceville, Ill.

PERSONAL MENTION-MEN YOU KNOW

L. K. King of Los Angeles, formerly vice-president in charge of production of the Associated Oil Company, has resigned to enter the oil business for himself.

G. H. O'Donnell has accepted an executive position with Cranfill-Reynolds Corporation as its Rocky Mountain representative. Cranfill-Reynolds Corporation is affiliated with the Moody-Seagraves Interests which recently took over the control of Cody Petroleum Company and other holdings of the Ferdig Interests.

A. C. McLaughlin, formerly vice-president of the Associated Oil Company and more recently general manager of the Tide Water-Associated Oil Company, has resigned to become petroleum technologist for the Southern Pacific Railway Company, with headquarters at San Francisco.

Bart Myers and Mrs. Myers sailed from New York City, August 1, for Colombia, South America, on the S. S. Santa Maria. Mr. Myers is resident manager of the Tropical Oil Company in Colombia, which is a subsidiary of the International Oil Company, Ltd. He was formerly with the Carter Oil Company in its operations in the Rocky Mountain region.

E. M. Bedford, assistant treasurer of Western Gulf Oil Company, has returned to Los Angeles after a trip through Mexico and Arizona.

R. T. Colter, independent oil operator of Los Angeles, has returned to his office after an extended European trip.

William W. Murphy, scout for the Western Gulf Oil Company, was married July 31 to Miss Magdilyn Yeargan of Hollywood. Ceremony was at the Little Church of the Flowers, Glendale.

D. R. Snow has been made manager of the geological, land and lease departments of the Barnsdall Corporation. Mr. Snow entered the Barnsdall employ when Waite Phillips Company was taken over on January 1, 1926.

George A. Schwab, formerly chief scout for the Barnsdall Corporation, Tulsa, has been promoted to superintendent of the land and lease departments. Mr. Schwab was with the Phillips Petroleum Company for 3½ years prior to going with the Waite Phillips Company in January, 1926. When The Barnsdall Corporation took over the Waite Phillips Company he continued with the Barnsdall organization.

L. S. Lantz, division production superintendent, and Martin J. Keoughan, assistant superintendent of the Continental Oil Compay, Tulsa office, have resigned to enter the oil business as partners.

Professor J. J. Galloway of Columbia University is spending six weeks at Ardmore in the Gypsy Oil Company offices where he is making a special study of micropaleontology. He recently completed four weeks of study in Tulsa.

W. M. Lourcey, lease and land man for the Gulf Production Company, Fort Worth, and Miss Marjorie Colvin, also of Fort Worth, were married in Wichita Falls, August 4, and departed immediately for a trip to California.

Airplane Exhibit Feature Of Tulsa Oil Show

Tulsa.—With the decision made less than two months before the opening of the International Petroleum Exposition & Congress here, October 5-12, to devote more than 40,000 square feet of space to airplane exhibits, every effort is being made to bring as large a variety of airplanes to the oil show as has ever been presented in the United States, General Manager William B. Way announced this week.

The addition of an aviation department to the exposition came as an official recognition by the petroleum industry of the benefits the industry has derived from the infant science.

W. B. WAY,

General Manager of the International Petroleum Exposition and Congress. Mr. Way is well known in the supply business as secretary of the National Gas Association of America.

The airplane, Way points out, is not to be considered as merely a new market for products of the industry.

"In the exploration, drilling, producing, refining and marketing branches of the industry," says Way, "the airplane has cut down time, an important consideration in the industry.

"This saving of time is not confined to enabling the executives to make their trips at high speed and high above bad roads, to permitting superintendents to keep in closer touch with the units in his jurisdiction, and the contractor to keep in practically continuous contact with his scattered strings.

"Probably aviation's greatest service as a time saver is in its assistance to the geologist. By aerial photography the geologist is enabled to explore large tracts in a tenth of the time required without use of the airplane.

"After the geologist has pieced together the photographs he has taken from an airplane he does not make out a long wordy report but merely sends the topographical map to the chief geologist who will determine his course of action from it by studying it under the steroscope, an instrument which brings out the markings into high relief.

"The airplane has caused the industry to produce gasoline of great efficiency. The airplane fuel is highly volatile and has a low vapor pressure, thus greatly minimizing the chance of vapor lock which 'kills' the motor.

"The airplane has proved of great value in testing fuels and lubricants.

"Volumes could be written on the close association of the airplane and the lighter-than-air craft with the petroleum industry."

Way has sent invitations to 179 airplane manufacturers in the country to take part in the aviation program at the exposition.

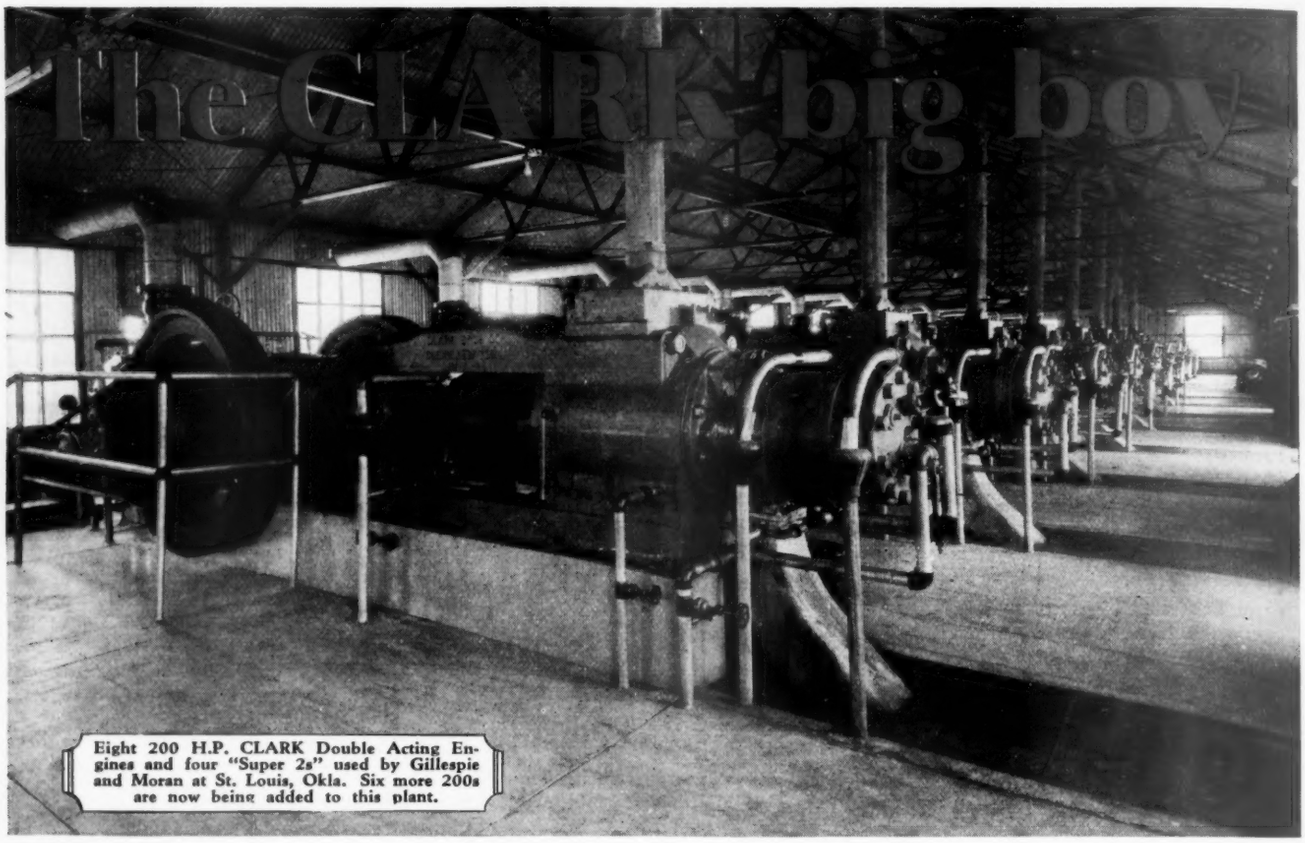
Burning Well Put Out After Six Days Effort

Houston.—Fire at Republic Production Company's Dolbear 68 at Hull was extinguished August 12 after the well had been burning six days. It had caught fire only a few hours after it blew in August 6 with an initial production of 1500 barrels, following deepening to a new sand at 2590 feet. Numerous steam lines were used without success against the fire, and only after the flame had died down to some extent could it be brought under control. Six years ago this well, then a new one, caught fire and burned 10 days.

Coastwise Shipments

Beaumont.—Coastwise water shipments of the Sun Oil Company during July from the company's crude oil terminal at Sun on the Neches River amounted to 795,665 barrels.

XUM



Eight 200 H.P. CLARK Double Acting Engines and four "Super 2s" used by Gillespie and Moran at St. Louis, Okla. Six more 200s are now being added to this plant.

Winning *favor by lowering Compressor Expense*

The CLARK 200 H.P. and 400 H.P. Double Acting Engine wins the favor of all who come to know it by cutting down expense in no uncertain manner.

Drastically reduced costs per h.p. for engine, freight, hauling, buildings, foundations and piping—the outstanding fuel economy of the famous CLARK "Super 2" design; notable maintenance economies due to extremely rugged 2-cycle construction—these savings show plainly in black and white.

Every operator who is interested in the purchase or operation of heavy compressors should have all the facts about the CLARK Double Acting Engine.

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Compressors and Gas Engines

CLARK

Oklahoma--Kansas Field Notes

WARREN BAKER, *Staff Representative, Tulsa, Oklahoma*

Oklahoma City Operators Will Hold Output to Shipping Facilities

TULSA. — Crude oil recovery of the Oklahoma City field continued to increase during the past week, when several new production peaks were established. August 11 the output of the pool jumped to 36,070 barrels from 10 wells. With several other tests bailing or drilling plugs, indications are that the production level of the field will go higher at once.

There will be no general tank building program in the pool, such as was launched at Seminole in 1926 and 1927. It was agreed by operators to hold production to pipe line outlets. The field has a daily production potential of 50,000 barrels. The pipe line facilities can handle only about 45,000 barrels daily, including one loading rack. This will be increased very shortly by enlarged facilities on the Empire Pipe Line Company's line and by a new loading rack.

Oklahoma City Field Developments

The latest completion in the Oklahoma City field is the Indian Territory Illuminating Oil Company and Foster Petroleum Corporation's Sonora Bodine 1, NWc Section 30-11-2w. This well has a total depth of 6474 feet. After cleaning out to the bottom of the hole it produced 3486 barrels the first 18 hours and 4298 barrels the first full 24 hours. It also yielded 194 barrels of water and 7,500,000 feet of gas. The Sonora Bodine test was spudded February 11. It is a diagonal southeast offset to the discovery producer.

Shell Petroleum Corporation's Petty 2, SWc NE Section 33-11-2w, reached 6483 feet, where it was cleaned out. The hole filled up 500 feet with oil in three hours after swabbing and bailing was commenced. It started to drill deeper but lost the tools, which have now been recovered. The well will finish drilling out a long plug. This well should be one of the early completions.

Mid-Kansas Oil & Gas Company and Ramsey Petroleum Corporation's B. Trosper 1, Section 19-12-1w, wildcat northeast of the field, topped the Viola lime at 6560 feet and is still drilling at 6612 feet in the lime. This test, previously thought running high, is apparently running low.

Indian Territory Illuminating Oil Company's Trosper 1, in Section 13-11-3w, north part of the pool, found sand at 6183-93 feet, with a show of gas. Sandy lime was found from 6193-6208 feet, with sand again from 6208-20 feet, with a show of oil.

Slick, Prairie Oil & Gas Company and Phillips Petroleum Company's Sudik 1, Section 8-10-2w, wildcat south of the producing area, is drilling at 7017 feet with 6000 feet of water in the hole. This is the third test in the state to penetrate beneath 7000 feet.

Several wells in the pool are preparing to drill deeper. Indian Territory Illuminating Oil Company and Foster Petroleum Corporation will drill deeper their Watters 1, NE NW NE Section 25-11-3w. It was recently shut in after making considerable gasoline. Watters 1 has killed 95 million feet of gas at 6249 feet and is moving in rotary tools. Sinclair Oil & Gas Company and Amerada Petroleum Corporation's Kitner 1, NW NW SE Section 30-11-2w, another gasoline well is lubricating and the pressure ranges from 400 to 2000 pounds. Total depth is 6188 feet with around 70 million cubic feet of gas.

Coline Oil Company's Olds 1, C SE NW Section 24-11-3w, will be deepened. This well produced 4049 barrels the last 24 hours. Sinclair Oil & Gas Company continues to drill its Stamper 1, NE SW NW Section 30-11-2w. Total depth was 6590 feet, or about 200 feet in the lime horizon. It continues to make around 3000 barrels of oil and 2000 barrels of water.

McCully Field Brightens

The recent completion of J. S. Cosden & Company on the Gardner farm in the NE NE NW Section 31-19-4w, southern part of the McCully pool in Logan County, continues to average 5000 barrels of oil daily. Shell Petroleum Corporation's McCully 8, SE SW SE Section 30-19-4w, flowed 2731 barrels of oil and 130 barrels of water from a total depth of 6037 feet in the Wilcox sand. The same company's McCully 6, NE SW SE Section 30-19-4w, drilling by tools at 5941 feet on top of the Wilcox sand, flowed 2221 barrels in 24 hours.

Independent Oil & Gas Company and Skelly Oil Company have jointly purchased a lease on the E½ SW Section 31-19-4w. Prairie Oil & Gas Company renewed its lease on the W½ SW Section 31-19-4w. Both leases are just south of the J. S. Cosden & Company well.

The next interesting test to be completed will be the Superior Oil Corporation's Story 1, SEc Section 25-19-5w, just across the county line into Kingfisher County, successful completion of which would extend production to the west. This well is drilling at 5950 feet. Should the well produce, the importance of the McCully field would be materially increased.

Sinclair Oil & Gas Company and Margay Petroleum Corporation's Murphy 1, SW SW SE Section 17-19-4w, found a hole full of water in the Wilcox sand at 6245 feet and is being abandoned after having a good show of oil at 5980 feet. This test is on the extreme north edge of the pool.

A number of new locations are being in the vicinity of the new producers on the south edge of the field. Cosden & Company is rigging up for Nos. 2 and 3 Gardner. Shell Petroleum Corporation is drilling several wells and starting some more.

Magnolia Petroleum Company's Decker 1, SEc SW SE Section 8-14-4e, one-half mile west of Chandler in Lincoln County, which opened a new Wilcox sand producing pool two weeks ago, has dropped to 424 barrels, according to a gauge on August 10. It is cutting seven per cent. The crude is being treated. Sand in the well was found at 4553-72 feet.

Sinclair Oil & Gas Company and McGraw Oil Company's Kelly 1 "A," NE NW NE Section 2-7-4, is making 1420 barrels on air pressure while cutting five per cent. This well is the most northwesterly producer in the Kelly Extension to the St. Louis pool and is producing from the Wilcox sand.

Water Ruins Two Wilcox Sand Wells at St. Louis

Tulsa. — In the area north of the original Wilcox sand producing area of the St. Louis pool, two Wilcox sand failures were completed the past week. Sinclair Oil & Gas Company and Mid-Continent Petroleum Corporation's Cummings 1, SE NE SE Section 6-7-5, filled up with 2500 feet of water from the second Wilcox sand at 4460-66 feet. Magnolia Petroleum Company's Pugh 1, SW SE SE Section 7-7-5, has a hole full of water from the Wilcox sand at 4355-56 feet.

Valley Center Passes Five Million Barrels During First Year

WICHITA.—The Valley Center field, north of Wichita, in Sedgwick County, Kansas, has produced approximately 5,000,000 barrels of crude since its discovery August 8, 1928. The discovery well, Continental Oil Company, Gypsy Oil Company and Bu-Vi-Bar Petroleum Corporation's Wright 1, SE NE SE Section 12-26-1w, has produced more than 400,000 barrels of oil.

Wright 1 was the first well in the county. Today Sedgwick County has six pools, with three of them still getting active development. The three active spots are the Valley Center area, Greenwich pool, and Robbins field. The county has a daily average production of about 36,500 barrels from 115 wells. The production recovery is divided as follows: Valley Center, 30,061 barrels from 92 wells; Robbins, 716 barrels, 5 wells; Greenwich, 4194 barrels, 13 wells; Goodrich, 1026 barrels, 3 wells; Patton, 6-26-2e, 97 barrels, one well; and Producers & Refiners, in 24-25-1e, 157 barrels from one well.

Reports from Interesting Wildcat Wells

Burger et al's Hadley 1, SWc NW Section 20-11-17w, important wildcat discovery well in Ellis County, western Kansas, has sand at 3420-40 feet. It swabbed 17 barrels and refilled at the rate of four barrels per hour. The tubing and rods were later run and it pumped 127 barrels the first 24 hours.

McPherson Oil & Gas Company's Chinberg 1, C NW NW Section 8-19-2w, McPherson County, central Kansas, has been drilled to 3020 feet with no increase. This test, drilled on Shell Petroleum Corporation acreage, topped the chat at 2992 feet. At four feet in the chat it showed gas. The gas increased when the well was drilled to 3009 feet and started to spray oil. An actual test of the gas flow showed it to be 2,500,000 feet.

Aladdin Petroleum Company's Baysinger 1, NEc SW Section 24-27-3e, new pool opener in Butler County, produced 240 barrels from 3012-22 feet on August 8.

Tom Slick, Steinbuschel et al's Shurr 1, NE NE SW Section 21-29-10w, southwest of Lyon in Rice County, western Kansas, has been shut down for pipe line connections. It swabbed 250 barrels from chat at 3282 feet. The oil tested 51 gravity. Slick paid $250,000 for the well and 2000 acres, with Steinbuschel et al retaining an over-riding royalty.

Ted Washabaugh et al's Voshel 1, in the NEc Section 9-21-3w, McPherson County, is being abandoned. This well had a very excellent showing in the Viola lime. One mishap after another kept it from being completed. The rig has been skidded over and a new hole will be drilled.

Lario Oil & Gas Company's Clancy 1, Section 19-26-3e, east of the Greenwich field, but across the county line into Butler County, is pumping 300 barrels daily from chat at 2700 feet.

Shell Petroleum Corporation's Ritz 1, Section 1-20-2w, recently completed wildcat in McPherson County, is producing 1450 barrels daily from the chat while cutting four per cent.

Sumner County

Gypsy Oil Company's Williams 1, SWc E½ SW Section 16-35-3w, second producer in the Caldwell area, extreme southern Sumner County, and but 330 feet north of the Oklahoma-Kansas state line, is holding up after settling to around 640 barrels per day. The well is yielding 48 gravity oil from the Wilcox sand at 4783 feet. The original well, Gypsy Oil Company's Douglas 1, NEc SE NW Section 21-34-2w, is recovering five barrels on the pump from the Wilcox sand at 4507 feet.

Gypsy Oil Company's Robeck 1, SWc NW Section 27-34-4w, has set the six-inch casing at 4863 feet; Enderrude 1, C SE W½ SW Section 16-35-3w, is drilling slowly ahead at 4580 feet in hard black lime. It had a showing of gas at 4420 feet. The company is getting ready to plug its Douglas 2, NW NE Section 23-34-2w,

Sedgwick County

Miller et al's Shaffer 1, NWc NE Section 9-27-2w, immediately west of Wichita, in Sedgwick County, encountered a hole full of water in the dolomite Simpson sand at 4008-14 feet and is shut down for orders. It had a very small showing of oil.

Sullivan, Melrose et al's Morford 1, NE NW Section 29-28-1e, south of the Robbins pool, had a show of oil at 3130 feet in chat topped at 3126 feet. At 3140 feet the casing is being set and a test will be taken.

Shell Petroleum Corporation's Community 3, NW SE SW Section 15-26-2e, is the sixth well in Greenwich townsite. It swabbed 134 barrels the first eight hours from 2919½-29 feet. It was swabbed but twice hourly.

Mars Oil Company's Miller 1, SE SW Section 2-26-2e, completed a few weeks ago, is pumping 110 barrels of oil and 85 per cent. water. It is north of Greenwich townsite.

The area southeast of Greenwich townsite is not proving as great a producing sector as it was first rated. Barnsdall Company's Rapp 1, in Section 22-26-2e, is getting but 133 barrels of oil from the chat at 2990 feet.

Prairie Oil & Gas Company and Tom Slick's Rosenhagen 1, SW SE NE Section 33-27-4w, wildcat in western Sedgwick County, found a hole full of water in the Wilcox sand at 4342 feet.

Additional Wildcat News

O'Haver & Jones et al's test in the C SW NW Section 15-28-14w, Pratt County, western Kansas, has a hole full of water from 3355-65 feet. Total depth is 3375 feet, where the eight-inch pipe is being set.

Phillips Petroleum Company's Schmeidler 1, NWc Section 20-12-17w, Ellis County wildcat producer which has been shut in for several months, has been opened up with the completion of the Phillips Petroleum Company's gathering line in the district that goes to its loading rack at Hays. Schmeidler 1 produced 29 barrels of oil and 49 barrels of water from the upper Oswald on the pump. It will probably be carried deeper to the lower Oswald where the Phillips Petroleum Company's Shutts 1, C NE Section 5-12-17w, is a 435-barrel pumper.

White Eagle Oil & Refining Company, Tidal Oil Company and Shaffer Oil & Refining Company have made a location in the NEc SW SE Section 25-27-5w, southeast of Kingman in Kingman County. It is located on a 25,000-acre core-drilled block.

Offsets Are Started Near Palacine Deep Well

Tulsa.—Offset wells are being started near Wirt Franklin Petroleum Company's Spain 1, SW SE NW Section 9-2s-6w, which opened the new deep sand Palacine pool of Stephens County.

Tubing and flow barrel are being pulled out of Spain 1, which has been producing 275 barrels per day, and the well will be put on the pump.

Kelly Extension

Tulsa.—Sinclair Oil & Gas Company and McGraw Oil Company's Kelly "A" 1, NE NW NE Section 2-7-4, most northwestern producer in the Kelly extension area of the St. Louis pool, is now cutting three-fourths of one per cent, and has fallen in production to 950 barrels daily.

Daviess County

Kansas City.—Natural gas production for transportation by the Missouri-Kansas Pipe Line Company in Daviess County, Kentucky, has increased approximately 40 per cent., or nearly 5,000,000 cubic feet of gas per day.

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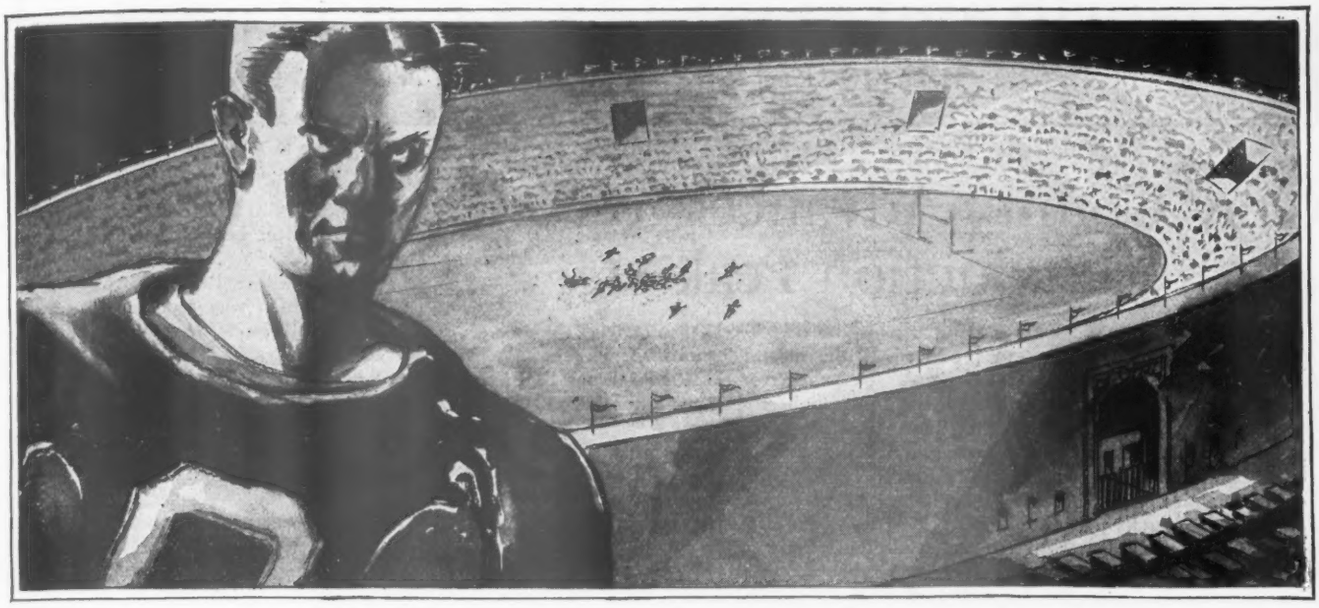

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North and West Texas Field Notes

H. H. KING, ***Staff Representative, Fort Worth, Texas***

Gray County Advances to New Production Peak

AMARILLO, Texas. — Registering a gain of 12,480 barrels in production during the past week, Gray County advanced to a new peak level of 75,600 barrels daily average output. The flood of new production coming from this county, accompanied by increases in adjoining counties, sent the output of the Texas Panhandle district to 112,740 barrels daily average last week, or the highest mark that has been attained in two years. Recent production gains have resulted in the district's becoming a soft spot in the general crude situation, with some producers being prorated or limited in daily crude sales. All crude purchasers in Gray County are being offered a greater volume of crude than they care to take on at present prices, and some producers have been forced to run oil to storage in tanks and pipe lines of the leading purchasers on a monthly rental basis. The active purchasing agencies are making an effort to take care of regular connections among the producers, and in some cases have severed connections with those that took advantage of premium offers by independent pipe line companies and local refiners early this year.

Outlook Bad

The crude market situation in Gray County offers little encouragement of improving in the near future, as more than a score of wells are now in process of completion in the Pampa-Lefors flush area, and field work is taking a slow decline because of the great number of offsets that must be taken care of. Gray County was credited with 101 tests under way, and eight derricks and rigs at the close of last week, representing a drop of seven operations for the week, while during the same period 10 producers were completed with a combined initial output of 16,305 barrels.

Phillips Petroleum Company is credited with having averaged 29,425 barrels daily in the Texas Panhandle during the past week, while The Texas Company held second place with an average of 19,050 barrels daily. Gulf Production Company ranks third with an average of 11,860 barrels daily. Phillips Petroleum Company boosted its output in Gray County 7760 barrels daily above the previous level during the past week.

Completions

Completions contributed by Gray County during the past week were all confined to inside locations, or offsetting producing wells. The Texas Company's J. B. Bowers 9, the second location west of the northeast corner of Section 89, Block B-2, made the highest initial, having flowed 7950 barrels of clean oil during first 24-hour gauge from granite wash formation at 2975-77 feet. Phillips Petroleum Company's Jackson-Joe Dan 5 had an initial flow of 3100 barrels natural at 2950-62 feet. This latter well is on the 80-acre tract acquired early last June from the Operators Oil Company & Danciger Oil & Refining Company for $1,200,000. The producer in the northeast corner of the lease continues to flow 5700 barrels daily on gas lift after being completed on the last day of May and rated at 14,275 barrels initial. Phillips Petroleum Company's Palmer 4, which was reported last week as being rated good for more than 15,000 barrels initial at 2855 feet, was flowing 450 barrels per hour after being on production for more than a week.

Wischkamper et al's wildcat test on the S. Guest land, located at the center of the NW¼ NE¼ Section 28, Block 17, H.&G.N. Survey, Wheeler County, developed 500 feet of oil in hole at 2379-90 feet, with a total depth of 2400 feet. An effort is being made to develop a commercial pumper from this operation at its present depth.

High Gravity Oil Pool Opened In Northeastern Fisher County

SAN ANGELO.—Northeastern Fisher County scored a new high gravity oil pool early this week when the joint test of Roeser Pendleton, Incorporated, and Amerada Petroleum Corporation's wildcat test on the Haught land developed hole full of oil after scratching the top of sandy lime formation at 3123 feet, with a surface elevation of 1787 feet.

A string of six-inch casing was landed about 225 feet off bottom when the oil production was encountered, and cavings are in the hole. Pipe is to be lowered before deepening, and in the meantime tankage is being built at the well.

The above concerns hold lease on about 2200 acres around the Haught test, while nearby protection is held by the Barnsdall Oil Company, Snowden & McSweeney, Humble Oil & Refining Company and Pure Oil Company. The well is located near the center of the southwest quarter of Section 191, BBB&C. RR. Survey, Block 1, and about 4½ miles northeast of the Stephens-Royston pool, which is producing from the same horizon.

On the southeast side of the Yates field, Mid-Kansas-Transcontinental interests Yates 2 "E" has been completed, flowing 712 barrels of clean oil per hour on an official proration test at 1240 to 1245 feet. On the north end of the structure, Gulf Production Company's Yates 24 was credited with an hourly flow of 385 barrels of clean oil August 12 on a proration test from lime at 1470 feet.

Pecos County Deepest Well

The deepest oil production in Pecos County, outside the Yates field, has been uncovered by the jointly owned wildcat test of The Texas Company, Phillips Petroleum Corporation and Independent Oil & Gas Company on the J. K. P. Campbell 560-acre lease in Section 46, Block 10, H&GN Ry. Survey. This test logged oil production at 1710-13 feet and light flow gas at 1725-30 feet, where a minor fishing job delayed operations last week. The test was deepened to 1734 feet, and swabbed 60 barrels of oil Saturday and 15 barrels of oil during a 14-hour test Sunday. This small producer is located about 3¾ miles southeast of the Pecos Valley pool and a like distance northeast of the McCarty-Bennett pool. The Independent Oil & Gas Company's Rayburn 1, Section 23, is located on a direct line between this wildcat producer and the Pecos Valley pool, and has been ordered plugged with hole full of sulphur water at 1925-70 feet.

Wheat pool, located on southwestern edge of Loving County, contributed an unusually large producer last week when Lockhart & Company's Bowen-Wells 2, Section 92, Block 1, W&NW Ry. Survey, flowed 650 barrels initial after a shot of 150 quarts in the Delaware sand at 4194-4233 feet. The above company is the sole operator in the pool and, exclusive of the new well, maintained a daily average production of 680 barrels last week from 13 wells.

The World-McDowell pool, which was established in north and central Glasscock County last April, is somewhat of a disappointment in that four tests drilled within a two-mile radius of the discovery well have missed the oil horizon, all being to the northwest, north and northeast. The World Oil Company's McDowell 1-C, which opened the pool with an initial production of 250 barrels at 2351-98 feet, is

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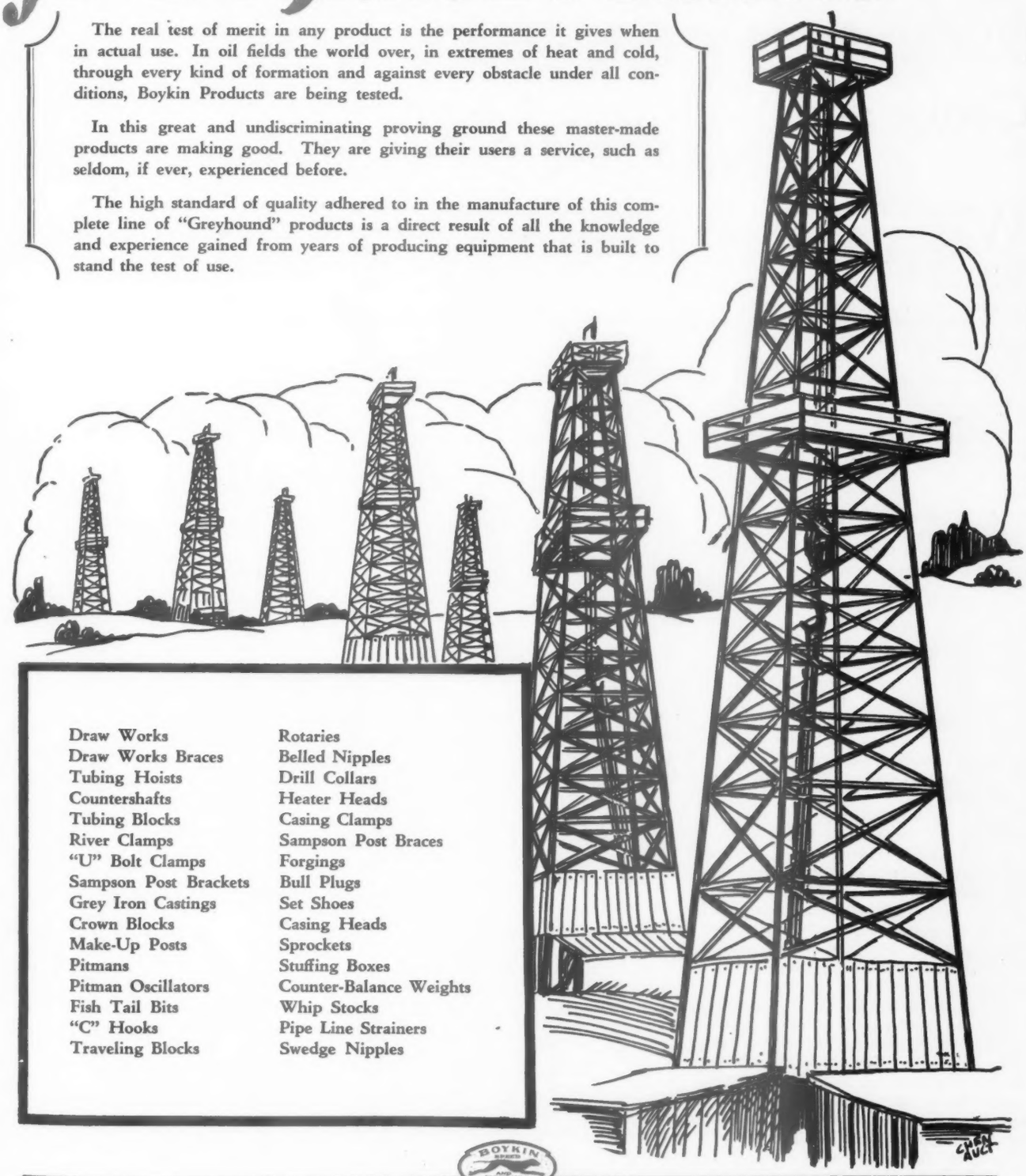

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pumping 65 barrels of oil and some water daily. Tests drilled by Texas State Oil Company, Mid-West Exploration Company, Houston Oil Company et al and the A. & F. Oil Company are considered failures. This area was automatically drafted under the proration rules of the Roberts-Settles field in anticipation of a drilling rush.

Another high mark on oil production was attained August 11 by the Group One Oil Corporation's University 1-B, Big Lake field, when it flowed 2752 barrels of 56 gravity oil and 25,495,000 cubic feet of gas from the deepest oil and gas horizon at 8500-23 feet. The Big Lake Oil Company is making fast progress in sinking four tests to this horizon, with its University 131 drilling August 12 in lime at 7998 feet. This test made 87 feet of hole during the past week. In Irion County, the Kingwood Oil Company's wildcat test on the Sugg ranch is drilling gray lime at 7678 feet and is believed to be near a decisive level regarding production.

Cooke and Wilbarger Counties Set New Peak

WICHITA FALLS, Texas. — Production gains made by Wilbarger and Cooke Counties sent the output of the North Texas district to a new peak level of 109,130 barrels daily during the past week, thus making two new records in as many weeks. The former county is showing the effect of the heavy volume of field work that has been going on throughout the Waggoner pasture, and a large number of completions resulted in the county maintaining a daily average production of 31,330 barrels for the week, or about 2000 barrels greater than the previous week. Congestion of the crude market in Wilbarger County is forcing some operators to store oil on a monthly rental basis with major pipe line companies, as the latter have placed a limit on their purchases, except with veteran customers. A serious shortage of water for drilling is now confronting the operators in this county, and a heavy rainfall will be needed to give the necessary relief.

In view of the water shortage and adverse condition of the crude market in Wilbarger County, R. L. More, manager of the Waggoner Estate, is beginning to waive drilling obligations on some of the leases held by companies and individuals, and a more widespread shutdown order may follow.

Successful completion of a second producer in the Tarver pool, Foard County, by the Shell Petroleum Corporation recently on the T. A. Johnson land, with an initial production of 174 barrels daily on the pump at 2024-41 feet, has resulted in two—a north and west offset—being started by the company on the T. L. Ward and S. Thompson farms.

The advance of Cooke County to a new peak of 11,080 barrels in daily average production last week is due to recent heavy completions in the Bulcher and Huggins fields. The latter area is the most recent discovery made in the county and is rapidly forging ahead as the most active area, with completions averaging 100 to 350 barrels initial in the 1100-1200-foot sand. In the Bulcher field, Humble Oil & Refining Company failed to make big producers from its two offsets to the recent unusually large flowing wells completed on the R. J. Timmis "B" lease of the Kewanee Oil & Gas Company, as the former company's Poteet 3 has been completed for 200 barrels initial at 1468 feet, and its Poteet 4 is flowing 250 barrels at a total depth of 1525 feet. The Sinclair Oil & Gas Company's Embry 1, located north of the above group of wells, missed the pay horizon and has been shut down.

M. L. V. Smith et al's Waggoner 1, located in the northeast corner of Section 35, and a mile southeast of the Sigler pool, Wilbarger County, developed a 300-barrel producer on a swabbing test from sandy lime at 2639-61 feet last week, after deepening from original pay sand at 2403-20 feet. This well was completed in August, 1925, yielding 20 barrels daily on the pump, and had settled to nine barrels daily when deepened to the lower horizon, which is the deepest oil level in the county.

Magnolia Pipe Line Runs Lower in July

Dallas, Texas. — Magnolia Pipe Line Company's crude runs from Oklahoma, Texas, Arkansas, Louisiana and Kansas, averaged 95,353 barrels daily during July, as compared to 96,901 barrels during June. These figures are exclusive of common carrier service performed for Pure Oil Company, Tidal Oil Company and others on long time contracts. The company was successful in materially curtailing its runs on sulphur contaminated crudes from West Texas and the Texas Panhandle district during July, while a substantial gain in runs was made during the same period from high gravity oil producing areas in Oklahoma. These runs are made from producing leases, royalty interests and outside crude purchases of the Magnolia Petroleum Company. Because of having a surplus crude supply the company made special efforts during July to restrict outside crude purchases.

Crude runs from fields in Oklahoma averaged 52,329 barrels daily during July, or a gain of 4927 barrels for the month. In the Wewoka-Cromwell section of Seminole district, Magnolia Pipe Line Company handled 1,045,160 barrels during July, or an average of 33,715 barrels daily. The company averaged 33,965 barrels daily from fields in Texas during July, or 6412 barrels less than the June average, with sharp declines in the Panhandle and West Texas districts. In Crane County, West Texas district, Magnolia Petroleum Company turned its production to the Texas Pipe Line Company during July, but the latter company has since turned the oil back.

Tanker Shipments Down

Tanker shipments of crude made by Magnolia Petroleum Company from Beaumont docks during July Amounted to 885,832 barrels, or 448,004 barrels less than the total tanker movement in June, when a peak was established with 18 cargoes aggregating 1,333,836 barrels. This decline in crude shipments is partially responsible for the company's reporting a surplus supply on hand at this season of the year. Tanker shipments of refined oils (gasoline, kerosene, naphthas, lubes, etc.), made a gain in July, with a total of 58,767,033 gallons, as compared to 44,432,402 gallons in June.

Total crude runs made by Magnolia Pipe Line Company, exclusive of common carrier business, from fields in Oklahoma, Texas, Arkansas, Louisiana and Kansas, during June and July, 1929, follow:

Fields—	June Totals	July Totals
Wewoka-Cromwell	861,240	1,045,160
Healdton	209,104	216,731
Hewitt-Graham	147,353	153,295
Cushing	104,839	107,496
Seminole	59,181	55,293
Yale	40,353	42,216
Augusta (Kansas)	35,422	37,413
Total Okla & Kans.	1,457,492	1,657,604
Luling	291,825	302,230
Mirando	166,978	175,249
Electra	80,863	87,186
Winkler County	82,351	78,074
Panhandle District	200,766	75,954
Burkburnett	61,463	62,761
Howard County (Deep)	66,034	59,633
Crane County	113,916	53,986
Lockhart-Lytton Springs	32,011	34,536
Mexia-Wortham	20,533	22,370
Archer County	20,210	21,225
Iatan-Howard County	17,319	18,206
Desdemona-Comanche Co.	16,767	16,845
Corsicana-Powell	11,133	12,082
Corsicana (Heavy)	8,551	9,183
Ranger-Olden	8,787	8,852
Stephens County	8,354	8,807
Petrolia-Clay County	2,097	2,356
Panola County	269	2,138
Thrall-Williamson Co.	1,083	1,233
Total for Texas	1,211,310	1,052,906
Smackover	68,891	71,453
Rainbow	45,235	44,955
El Dorado	5,979	5,942
East El Dorado	3,714	3,328
Total for Arkansas	123,819	125,678
Bull Bayou	36,514	36,956
Pine Island	27,213	28,850
Hackberry	22,850	25,221
Cotton Valley	23,604	24,318
Haynesville	4,216	4,408
Total for Louisiana	114,397	119,753
Total for five states	2,907,018	2,955,941

Lost Lake

Houston. — Pure Oil Company's Mayes 2, discovery oil well of the Lost Lake dome, Chambers County, has increased in production and is now flowing 220 barrels daily. It came in August 1 flowing 23 corrected gravity oil at the rate of 200 barrels daily, by 1½ hour heads.

In Mayes 3, located 400 feet east of No. 1, a completed gas well, Pure Oil Company has succeeded in pulling screen, and is now ready to drill deeper from 2152 feet.

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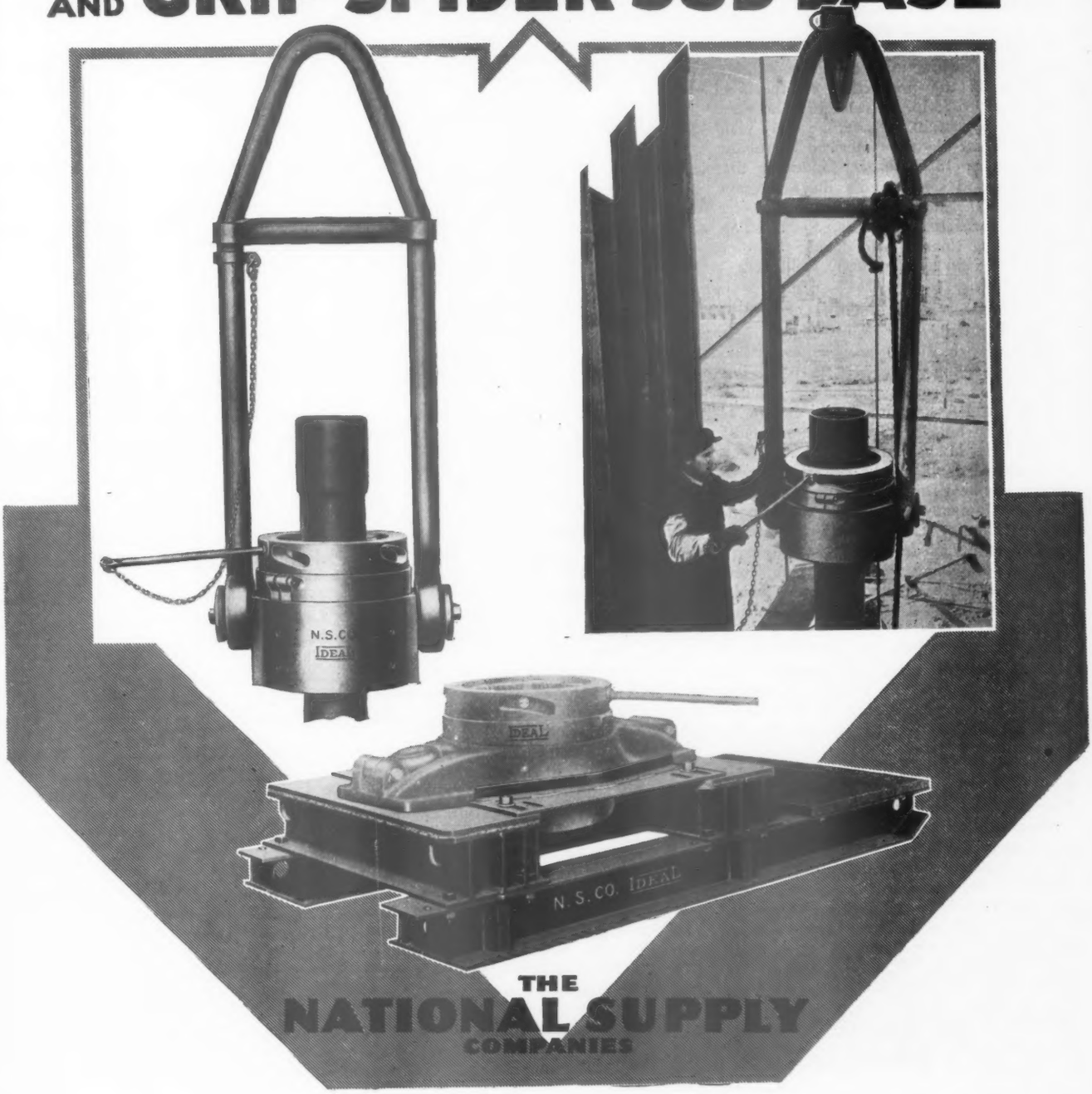

THE NATIONAL SUPPLY COMPANIES

Gulf Coast Field Developments

JACK LOGAN, *Staff Representative, Houston, Texas*

Barbers Hill is Forging Ahead Among Coastal Fields

HOUSTON.—From various viewpoints Barbers Hill is one of the most interesting of the Gulf Coast fields. In the first place, it has the greatest amount of drilling activity among Coastal fields, with about 25 rigs running there. In the second place, its production is steadily mounting. During the past two weeks it has passed Sugarland for third place among the Gulf Coast fields in daily production, and it is now crowding Pierce Junction for second place. August 12 the production of the field amounted to 15,167 barrels. For the week ending August 10 the average daily yield was estimated by the American Petroleum Institute at 13,700 barrels. During that same period Sugarland's daily average was 11,400 barrels, and that of Pierce Junction was 16,500 barrels. Spindle Top, the leading Coastal field during the same period had an average daily yield of 25,100 barrels.

Deepest Hole in Gulf Coast

Another standpoint from which Barbers Hill is of exceptional interest now is that of deep drilling. One well there, Yount-Lee Oil Company's Chambers County Agricultural Association 4, still drilling, is the deepest hole ever drilled in the Gulf Coast. It is in shale and lime at 7652 feet. The record depth of the Gulf Coast was previously held for a short time by Yount-Lee Oil Company's Crowley 4 at Evangeline (Jennings), Louisiana. That test has casing set at 7563 feet, and is standing.

Three producing wells were completed at Barbers Hill during the past week. Yount-Lee Oil Company's Chambers County Agricultural Association 7 was completed for 2400 barrels initial production at 5302 feet. It is flowing 30.7 corrected gravity crude on a half-inch choke. Rexal Petroleum Company's Smith 1 came in flowing 100 barrels at 5174 feet. Moody Corporation's Ilfrey 1, a 100-foot south extension of the north part of the east flank of the dome, was completed for 2400 barrels at 5140 feet.

Several other tests at Barbers Hill are down near the deep sands and are due to be completed soon. Humphreys Corporation's Tarbutton 1 in the north end of the east flank is reaming to set casing at 5083 feet, and in the same general area that company is preparing to test 32 feet of oil sand at total depth of 5200 feet in Kirby H-2; is drilling hard sand at 4984 feet in Kirby H-1; is drilling shale at 4490 feet in Kirby H-3, and is coring at 5115 feet in Ilfrey 1. Other operations in that part of the field follow: Rexal Oil Company's McLean 3 is drilling sand at 3616 feet, and Cockburn 1 is drilling shale and lime at 5085 feet. Mills Bennett Production Company's Smith 3 is shut down at 1892 feet, and G. W. Collier 1 is rigging up.

Testing Flanks of Field

The interesting deep test of the northwest flank of the dome, Humphreys Corporation's Kirby A-8, is drilling lime at 5513 feet. On the north flank Mills Bennett Production Company's deep test, E. W. Barber 1, is sidetracking the original hole at 3620 feet, having been surveyed down and shown to be crooked. On the southwest flank another interesting deep test, Mills Bennett Production Company's Barrow 7, an old Miocene well that is being deepened, is now drilling shale at 4423 feet.

On the south end of the east flank in the area opened about two weeks ago by Republic Production Company's Kirby 1, there are now numerous drilling tests. Republic Production Company is drilling gumbo at 1754 feet in Kirby 2. Yount-Lee Oil Company's Woodward 1, a north offset to the producer, is drilling gumbo at 3347 feet, and its Kirby 1, to the east, is drilling shale at 5608 feet. Sun Oil Company's Amanda McKinney 1 is drilling lime and gumbo at 2262 feet; McKinney 2 is rigging up, and Wilburn 1 is drilling sand and gravel at 985 feet. Sinclair Oil & Gas Company has spudded in McKinney 1, and is rigging up on Wilburn 1. E. B. Daniels et al are drilling at 1260 feet in sand and boulders in Woodward 1, and at 2220 feet in gumbo in Woodward 2. The Texas Company has made location for Wilburn 1.

In the deep sand area of the south flank Yount-Lee Oil Company's Chambers County Agricultural Association 4 is drilling shale and lime at 7652 feet, and Sun Oil Company's Chambers County Agricultural Association 3 is drilling sand and lime at 4257 feet.

Old Anse La Butte is Brought Back to Life

HOUSTON.—The old Anse La Butte salt dome, St. Martin Parish, Louisiana, has become a center of interest through the completion early this week of Yount-Lee Oil Company's Louisiana Petroleum Company 5 on the northeast edge of the field. According to reports received in Houston August 13, the well came in flowing 1000 barrels of 32.5 gravity pipe line oil from 3764 feet.

Anse La Butte is one of the oldest known domes in the Gulf Coast and one of the first few on which production was developed, the discovery well, Fee 1, having been completed there in 1902 by Heywood Brothers. The depth of the Anse La Butte discovery well was 1350 feet, and it was located on the northeast side of the field, but not as far out as the present producer of the Yount-Lee Oil Company.

Following the discovery of oil by Heywood Brothers, other producing wells were completed in the same general section of the field. But there was never any noteworthy success in the development. From the discovery of the field through 1928, the total production amounted to only 610,000 barrels, the output varying from year to year, but never exceeding 145,000 barrels annually, the amount produced in 1908. In 1928 the total production was 16,000 barrels. During the past few years there has been very little activity at Anse La Butte, consisting principally of several tests by the Yount-Lee Oil Company and several by A. G. Broussard.

Yount-Lee Oil Company recently put down the deepest test of the field, a 5000-foot hole which was abandoned in salt. Aside from the present Yount-Lee Oil Company producer, there have been three completions there in 1929, all failures.

There are various salt domes within a radius of 35 miles from Anse La Butte, including both productive and non-productive domes. Anse La Butte is about 35 miles east of Jennings, which is the most productive of all South Louisiana fields, with about 40,000,000 barrels total recovery to its credit. It is 15 miles south of Port Barre, the newly productive dome of The Texas Company and Gulf Refining Company in St. Landry Parish. It is 18 miles west of Bayou Bouillon, a producing dome; 10 miles west of the Section 28 salt dome; and 16 miles north of Jefferson Island, the most northerly of the group of five domes known as "the Five Islands." These last named five domes have not yet proved productive of oil, but have been mined commercially for salt.

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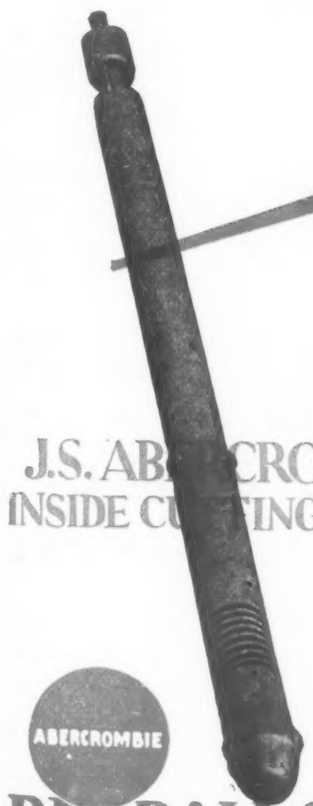

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Four Wells to Be Drilled In Terrebonne Parish

Houston.—The Texas Company during the past week obtained permits from the state conservation department at Shreveport, Louisiana, for drilling four locations in Terrebonne Parish, South Louisiana. Two of the locations are Lake Pelto B-2 and B-3 in Sections 8 and 9, respectively, in 23s-18e. Lake Pelto B-1, the first test drilled on Lake Pelto dome, was recently completed a 400-barrel flowing well at 1389 feet. Another of the new locations is Louisiana Land & Exploration Company A-2 in Section 13-21s-16e. One test, Four Isle Bayou B-1, has been drilled on that dome; it hit salt at 1380 feet. The fourth new location is Timbalier Bay A-2. It is the second test to be started on that dome. The first, Timbalier Bay 1-A recently drilled into anhydrite around 3000 feet.

Sugarland

Houston.—Humble Oil & Refining Company during the past week completed one producer at Sugarland, Fort Bend County. It was Hammer Fee 5, which came in for 900 barrels initial production at 3597 feet. Average production at Sugarland during the week ending August 10 was 11,400 barrels daily.

Production Decline At Salt Flat Gradual

Houston.—Production at Salt Flat, Caldwell County, is still not far below the field's peak of 52,000 barrels, established about the middle of June. During the week ending August 10 the average daily yield of the whole field was 48,250 barrels. During that period there were eight completions, all Humble Oil & Refining Company producers. Floyd Gray 5-A was finished for 500 barrels at 2672 feet; 6-A for 250 barrels at 2683 feet; 7-A for 600 barrels at 2673 feet; Mary B. Johnson 4-A for 200 barrels at 2687 feet; 5-A for 300 barrels at 2686 feet; 4-B for 250 barrels at 2686 feet; Moses & Baggett 11-B for 125 barrels at 2682 feet; and T. A. Tiller 6 for 500 barrels at 2667 feet.

Edgerly Extended

Houston.—The productive area at Edgerly, Louisiana, was extended 400 feet northeast on August 13 when Rex Petroleum Company's Hunter 10 came in flowing 1200 barrels daily from 3300 feet. Aside from being an extension well, Hunter 10 is exceptional in the amount of its production. Before it was completed there were six producers finished in the field in 1929, and all six had a combined initial production of only 510 barrels. During the first half of this year the field had a total recovery of 156,850 barrels, and during the week prior to completion of the new Rex Petroleum Company well, the average daily production was only 750 barrels.

The discovery well at Edgerly was Bright Oil Company's Bright 1, completed at 1500 feet in 1911. The peak production year was in 1915, when the output was 1,403,000 barrels. By the close of 1928 the total recovery of the field had reached 7,443,000 barrels. Although Edgerly has for a long time been believed to be a deep salt dome, it was not until about two years ago that salt was actually encountered by the drill.

Yount-Lee Completes Four in Spindle Top

Houston.—There were four completions during the past week at Spindle Top, all being Yount-Lee Oil Company tests. McFaddin 108 came in flowing 1200 barrels on a one-half-inch choke from 3706 feet; McFaddin 107 was abandoned in heaving shale at 4597 feet; McFaddin 14, a workover, was finished for 225 barrels at 5118 feet; and Gladys City 4, another workover, came in for 180 barrels at 4123 feet.

Refugio One of the Most Active Coast Fields

HOUSTON.—With activity directed toward the development of both oil and gas production, Refugio is now one of the busiest fields in the Gulf Coast. During the past week the oil production amounted to an average of 5604 barrels daily, with 25 wells contributing to the total. There are 24 operations in the field, including several which are due to be completed within a short time.

During the past week there were six completions in the field, including two oil producers, two gas producers, and two failures. Houston Gulf Gas Company finished Lambert 9 as a 75 million-foot gas well in a sand at 3573-77 feet, and junked and abandoned Buckley 1 at 2680 feet. Mission Drilling Company's Shay 1 started off flowing 200 barrels daily of pipe line oil from a sand at 3660-64 feet. Houston Oil Company completed Rooke 12 at 3695 feet for 250 barrels initial production, finished F. Rooke 1 for 50 million feet of gas at 3689 feet, and abandoned Wilson Heard 6 in the Refugio town tract at 3700 feet.

Houston Gulf Gas Company's Rose Lambert 3 is standing cemented over a showing at 3646-53 feet; Ryals 5 is drilling sandy shale at 3302 feet; Shelly 6 is drilling at 5070 feet; Morgan-Shelly 1 is drilling at 1227 feet; O'Brien 5 is rigging up; and Vance 1 is moving in rig.

Mission Drilling Company's Powers 2 bailed salt water at 3510 feet and is now drilling deeper; Shelly 2 is a derrick; O'Brien 1 is drilling at 4383 feet; J. F. B. Heard 2 has spudded; Strauch 1 is rigging up; and Mitchell 1 is a derrick.

Union Exploration Company's Rooke 2 is drilling at 1248 feet. Each of the three companies, Houston Gulf Gas Company, Union Exploration Company and Mission Drilling Company, are United Gas Company subsidiaries (Moody-Seagraves interests).

Saxet Oil Company's Claud Heard 5, a workover, is testing at 3667-74 feet, and Claud Heard 9 is drilling rock at 1000 feet.

Houston Oil Company's Rea 2 is drilling lime shale at 1103 feet, and Wilson Heard 8 is rigging up.

W. L. Pearson, Trustee, has spudded in Simpson 1. Korona Oil Company is rigging up West 1. Dr. Hewitt's Cemetery 1 is a derrick. Morgan Oil Corporation's City 1 is drilling gumbo at 3075 feet, and Fox 1 is a derrick. Sun Oil Company is running tubing in Rea 2 which has casing set over a sand at 3654-64 feet. Texas Gas Company's Rogers 1 is drilling rock at 1870 feet.

Sulphur Well Expected To Boost Dome Yield

Houston.—Union Sulphur Company during the past week completed Fee 748 at Sulphur dome, Calcasieu Parish, Louisiana, for 2000 barrels initial production at 4056 feet. That was the second well completed at Sulphur within a period of a little over two weeks. The completion of Fee 748 will probably result in an increase of production during the coming week over the average of 3300 barrels recorded during the week ending August 10.

Pettus Gas Area

Houston.—Mission Drilling Company's Ray 3, the third test of the Pettus gas area, northeastern Bee County, discovered last year, is now drilling shale at 3875 feet. Mission Drilling Company is also moving in materials for a fourth test, Ray 4.

The discovery well, Dr. H. E. Hewitt's Ray 1, was completed late in 1928, and early in 1929 that well, together with a block of leases surrounding it, was acquired by the Mission Drilling Company, a subsidiary of the United Gas Company. The latter has done all subsequent development. Ray 2, the next test, was finished over a month ago for 45 million feet of gas at 2830 feet.

No pipe line outlet has yet been provided for the area.

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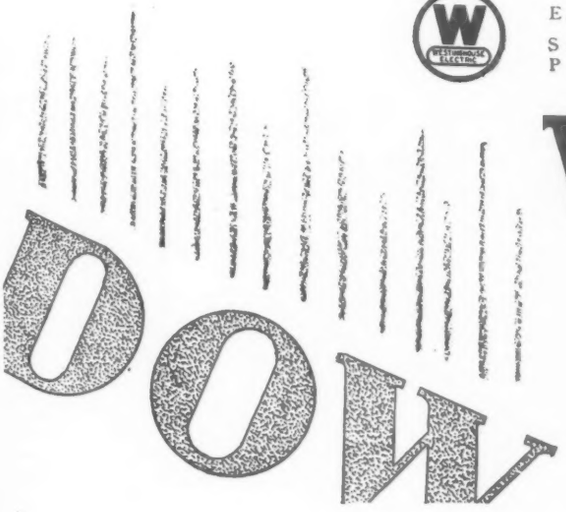

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Louisiana-Arkansas Field Notes

Two Arkansas Areas Have Revival of Activity

SHREVEPORT.—Mount Holly district of Ouachita County, Arkansas, took a new lease on life during the last week when Houston Oil Company's Wilson B-3, Section 25-15-18, was revived. It is now flowing through tubing at the rate of 1000 barrels daily of cut oil with about 30 per cent. shakeout. Total depth is 2785 feet.

Leasing in Mount Holly is increasing. Lion Oil Refining Company is reported to have purchased an 80-acre tract five miles southwest of the producing area in Section 32-15-18. To the northeast, Gulf Refining Company obtained an 80-acre tract from Mrs. Maggie Goodwin in Section 21-15-17.

Dixie Field Extended

Dixie's producing area was extended approximately three-quarters of a mile southwest during the week when D. C. R. Oil Company's Oden 1, Section 20-19-14, was put on the beam and pumped 12 barrels daily, total depth being 2423 feet. Diagonally across this 40-acre tract, however, the D. C. R. Oil Company and the Crystal Oil Refining Company are not having much success with Oden 2, which is reported coring at 2408 feet.

Standard Oil Company of Louisiana is pumping 20 barrels of oil and 25 barrels of salt water daily from Hunter 6, Section 17-19-14 at 2412 feet, while in the same section Gulf Refining Company obtained a dry hole in Hunter 1, going to 2550 feet before quitting the test. Gulf Refining Company is bailing Hunter 2 in the same section with total depth of 2405 feet. Two miles northeast of production S. T. Onyett, Trustee, tested dry with a show of oil in the Nacatosh sand from 868 to 888 feet and is drilling ahead.

It is significant that there was not a single new location made in Dixie during the last week, although nine new locations were announced in North Louisiana.

W. M. Coates, Trustee, is shut down at 4076 feet in McDuffie 1, Section 32-19-16, Union County, Arkansas, just north of the Louisiana line. Coates plans to make a test at this depth of an interesting looking sand he encountered in a core. This depth is over 800 feet below the deepest pay sand in Champagnolle field and if any production were found, it would be the deepest in Arkansas. He is probably in the upper Trinity formation, which is found around 3600 feet in Pine Island and 4400 feet in Cotton Valley.

Shreveport.—The Pleasant Hill district of Sabine Parish, Louisiana, which has been comparatively inactive for almost two years, came back into prominence August 10, when the Bridges-Clark Oil Company's Williams 1, Section 33-10-12, came in at 3215 feet, flowing at the rate of 135 barrels an hour. The well's output August 12 had dropped to 85 barrels an hour but it was still the best producer ever completed in that district. The well is in proven territory and at the depth from which former producers have been completed.

Magnolia Petroleum Company has laid 700 feet of gathering line to the well and the oil is now flowing through its pipe line. The gravity is 41.

Standard Oil Company of Louisiana, Sunday, added another Trinity sand gas well when Bodcaw B-22, Section 28-21-10, Webster Parish, Cotton Valley district, was completed at total depth of 4,631 feet, producing between 35 and 40 million cubic feet daily.

Northeast Smackover Revived

There has been a revival of activity in the northeast part of the old Ouachita Parish part of Smackover. following on the heels of the successful completion of Sundby and associates' Ferris 1, Section 27-15-15, a half mile east of production, as a 50-barrel well at 2060 feet. Arkansas' only successful completion during the last week was in this area, Standard Oil Company of Louisiana's Powell 7, Section 34-15-15, which is producing 94 barrels daily from 1975 feet. Two failures were recorded in Arkansas during the week, Root Refining Company's Oliver 1, Section 18-17-13, a mile southeast of Champagnolle, being abandoned as a dry hole at 3308 feet, and Lovett and associates getting salt water at 3195 feet in Goodwin 1, Section 3-16-16, in the Union County part of Smackover. Of the 24 operations under way in Smackover over half are in Ouachita County.

Richland Parish, Louisiana's gas field where the pressure is so high that few wells can be opened full capacity even for obtaining an open flow gauge, added another wild gas well during the week. Northern Louisiana Natural Gas Company's Boykin 2, Section 20-17-6e, being drilled as the first relief well to Boykin 1, in the same section, which went wild and cratered at 2350 feet, has blown out and is running wild at 535 feet. In Section 22-17-6e, Palmer Corporation added Jones A-1 at 2457 feet as a six million foot gas well.

Two important wildcats were listed among the week's failures. Southern Crude Oil Purchasing Company abandoned Christian 1, Section 22-23-6e, in the Colquitt district Claiborne Parish, as a dry hole at 3006 feet. Sundby and associates, who have long been shut down in Security Trust 1, Section 6-23-1e, Union Parish, finally abandoned the test as a dry hole at 2300 feet.

Hope of getting a shallow gas field in Urania, LaSalle Parish, was revived during the week when Phelps and associates' Hardtner 1, Section 1-10-1e, was completed at 730 feet as a five million foot gas well.

On the northeast side of the Trinity sand gas field of Cotton Valley, Webster Parish, Ohio Oil Company completed Bodcaw 43, Section 24-21-10, at 4639 feet as a 5,400,000 foot gas well. Richland Parish added the week's largest gas well in International Gas Production Company's Beck 1, Section 25-16-6e, which gauged 51 million feet at 2460 feet.

Rapides Parish, in the center of Louisiana, will get another test, drilling permit having just been issued to Ayers Brothers and associates to drill Wicklipp 1, Section 9-5n-2w.

George O. Baird is coring hard sandy lime at 3397 feet in Tremont Lumber Company 1, Section 24-16-1w, Jackson Parish, a wildcat test.

Magnolia Contemplating Testing Cadron Ridge

Shreveport.—What probably foreshadows an extensive wildcat drilling campaign in Central and Western Arkansas by the Magnolia Petroleum Company is indicated by a wholesale purchase of leases in Pulaski, Perry, Faulkner, Pope,

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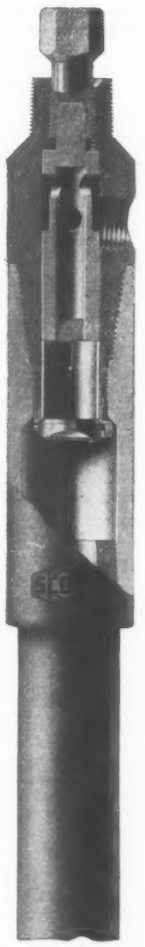
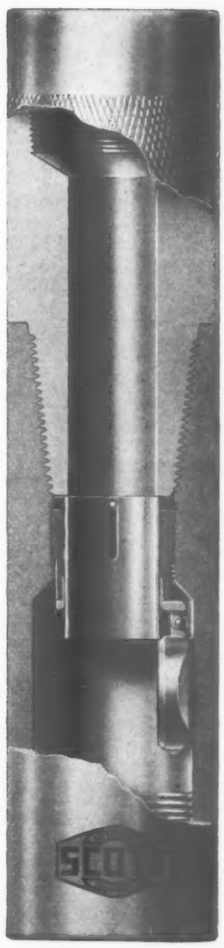
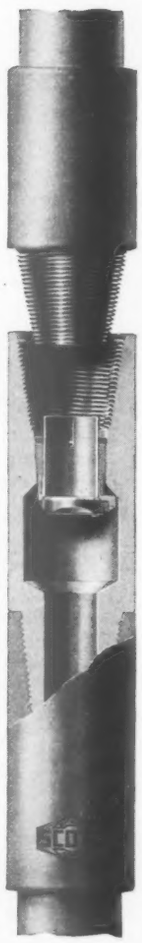


Flow connection installed in position to connect to pipe line.



Tool joint engaged with valve positively held in open position.



Tool joint disengaged, with valve immediately operable.

Yell and Johnson Counties of that state.

Reports from Conway, Arkansas, state that the Magnolia Petroleum Company has acquired mineral rights to 4250 acres of land in Township 6, Ranges 12, 13 and 14, north. The block is rectangular in shape and is about one mide wide, extending along Cadron Ridge for about 10 miles.

A total of 644 acres has been leased in Pulaski County, including five 80-acre tracts, one block of 130 acres and one 114-acre block. The exact amounts leased in the other counties mentioned is not announced.

M. McKay and W. B. Vance represented the Magnolia in most of the leasing, including the acreage in Faulkner County, where McKay is at present located, having been transferred there from El Dorado.

The leases, for the most part, are to extend over a 10-year period.

Progress Made on Line Of Arkansas-Natural

Shreveport. — The Arkansas-Louisiana Pipe Line Company, a subsidiary of the Arkansas Natural Gas Corporation, announces that good progress is being made on construction of the Longwood-Monroe-Richland 20-inch pipe line by Williams Brothers, contractors.

Up to and including August 1, a total of 136.67 miles of right of way had been cut; 109.85 miles of pipe had been strung; 62.40 miles of ditching had been completed; 51.21 miles of pipe had been welded; 59.43 miles of pipe had been painted; 53.03 miles of pipe had been lowered; and 52.05 miles of ditch had been back-filled.

Constitutionality Upheld In Severance Tax

Shreveport.—The United States Supreme Court will pass on the constitutionality of the Louisiana state severance tax law passed in 1928, according to an announcement by Sidney L. Herold, chief plaintiff counsel in the injunction sought by the Ohio Oil Company to enjoin the state from collecting the tax, following the upholding of the constitutionality of the statute by the United States Circuit Court of Appeals at New Orleans last week.

The suit was brought on the grounds that the law is discriminatory against oil operators.

The opinion of the three federal judges said "undoubtedly a state has the right to impose specific taxes, as well as ad valorem taxes, unless prohibited by the state constitution. The constitution of Louisiana expressly authorizes the levying of specific taxes on oil severed from the soil."

Further the opinion recited that "in adopting Act 5, providing taxes by the barrel and defining different classes of oil, taxable at the different rates per barrel, the legislature was acting well within the authority of the Louisiana constitution.

"There is no basis for holding that the law is intentionally discriminatory as the tax bears equally on all persons producing the same quality of the oil."

The bill for an injunction was dismissed at plaintiffs' cost.

Several months ago plaintiffs secured a temporary injunction from the federal supreme court preventing the collection of the taxes until the case could be heard on its merits by the highest tribunal.

JIM MORGAN

The Camp-Morgan Company of Tulsa has been formed as a result of the association of C. F. (Heavy) Camp and Jim Morgan to engage in the manufacture and distribution of oil field specialties including the Black Gold separator, a new type of oil and gas separator with a patented mist extractor. Both men are well known in the industry, Camp being president of the C. F. Camp Company and Morgan formerly was sales manager of the Smith Separator Company.

The Camp-Morgan Company also will act as distributors for the products of Neilan-Schumacher Company in the Mid-Continent field. Offices of the Camp-Morgan Company are established at 217 East Archer Street in Tulsa.

Salt Creek Completion Yields 2100 Barrels

Midwest Refining Company completed No. 13-Sd-3 in the Sundance, at Salt Creek last week, which came in flowing at the rate of 2100 barrels a day. The total depth is 2580 feet. The new well is on a lease owned by the Wyoming Associated Oil Company. It is one of the best wells completed in the Salt Creek field for some time.

Deep Tests Underway In Mountain Area

Casper.—Rocky Mountain region is experiencing an era of deep drilling. In Wyoming at least half a dozen deep tests are either under way or scheduled to start within the next few weeks. Montana, Utah, Colorado and New Mexico each have one or more deep tests drilling below one mile in depth.

Production from the various fields in the Rocky Mountain states has continued to hold around 75,000 barrels daily for several months, the new completions continuing to take care of the natural decline. Midwest Refining Company completed a well in the Sundance in the last week, No. 13-SD-3, on the Wyoming Associated Oil Company's lease, which started with a daily production of 2084 barrels from a depth of 2580 feet. Midwest Refining Company has started drilling its test intended for the granite which is located near the center of the Salt Creek field. It is believed that 12 possible oil bearing sands will be cut in less than 7500 feet. To date none of the sands in this field has been explored below the Sundance.

Teapot Dome

Casper.—Wyalta Oil Company is drilling a test well east of Teapot Dome on the Roy Churchill Smith permit. The location is in SE¼ NE¼ Section 11-38-78. The objective is shale production around 2000 feet.

Cimarron County Test Is Abandoned in Lime

Tulsa. — Magnolia Petroleum Company and Ramsey Petroleum Corporation's State School Land 1, C SE NE Section 22-5n-5ecm, west of Boise City, in Cimmarron County, is being abandoned. The pipe recently twisted off and made it impossible to proceed. Total depth is 4350 feet in brown sandy lime. This test found nothing from 4090-4100 feet, where Ramsey Brothers found oil in Section 27-5n-5ecm, in the early part of 1927.

This apparently means the end of the oil play in Cimarron county, at least for the time being. The county had six drilling wells in 1927. All of these but one were failures, and this one was ruined by shooting. There was also some drilling in Texas County, adjoining Cimarron, during 1925, 1926 and 1927, but nothing but gas was found.

East Seminole

Tulsa. — Continental Oil Company and Sinclair Oil & Gas Company's Perry 2, NE NW SW Section 18-9-7, in the East Seminole City pool, has 1000 feet of water in the hole while drilling at 4421 feet in the Wilcox sand.

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News From California Fields

BRAD MILLS, *Staff Representative, Los Angeles, California*

Many New Wells Started for Lower Clarke Zone at Santa Fe Springs

LOS ANGELES. — Overcoming the fear that drilling to the 8000-foot level might prove an unprofitable venture, and temporarily sidestepping the gas saving issue, operators as Santa Fe Springs are marshalling their forces to develop the lower Clarke zones on a large scale. Several disadvantages have been weighed against the favorable factors, with the result that new locations are being made daily in addition to the re-conditioning for deepening many wells that have not been successful producers in the Buckbee and O'Connell zones. This move is gaining momentum and the total number of operations announced for the lower Clarke series now stands at 88. This figure includes the wells already drilling in and for the sand.

In some circles, the extensive development of the lower Clarke series is not regarded as a threat of a continued wave of over-production. On the other hand, fear is expressed that Santa Fe Springs will remain in the critical class for at least another six months. Nearly all wells completed thus far have been drilled on edge leases, where neither the Buckbee nor the O'Connel zones have been productive. This proves the sand to be much more extensive than the shallower sands drilled during the past year and gives it a chance of running the Meyer zone a close second in both extent and thickness.

Cementing Hazard Over-Estimated

Depth of the lower Clarke sand is distinctly against it, so far as a sudden flood of crude is concerned, but the facts that drilling technique has advanced so rapidly in the field and difficult problems of former days have been solved will figuratively bring the zone much nearer the surface. It probably will require around four and one-half months to complete these wells, while the many tests taken from Buckbee and O'Connell zone levels will reach their objective in less than half this time.

Cementing successfully over the third Clarke zone has not been so difficult as anticipated, despite temperatures ranging up to 212°F. The main object is to get the cement in place before the initial set, which takes place in a very short time with such high temperatures. By excluding a large body of the undesirable sand the final shutoff may be made with a minimum risk of water trouble. Several successful cementing jobs have been made just above 8000 feet, regarded a few years ago as an impossible accomplishment.

LONG BEACH, Calif.—Coring at the rate of about 10 feet per day, Shell Oil Company has reached a depth of 9268 feet in Nesa 11, peer of all deep holes. The formation shows hard sandy shale, with streaks of sand. No effort is being made to rush the well to completion. Precaution has been reflected is the complete absence of mechanical trouble.

A string of 5¾-inch casing will be run to 9000 feet as a precautionary measure. If successfully landed, this will be the longest string of casing ever run. The well now has more than 4000 feet of open hole.

Shell Oil Company has made 14 new locations during the past two weeks, with all of the wells to be drilled to the third Clarke sand. These are located principally on leases which have not returned a profit from the Buckbee and O'Connell zones, although a few inside tests will also be made. The company seems justified in its efforts to develop a sand which has proved deceptive in the shallower zones, when the present production of the more successful wells are considered. Standard Oil Company will start four wells for the zone, while The Texas Company has made two locations with the same intention.

The more advanced third Clarke activity includes 15 wells drilling in, 11 cemented over and three preparing to complete in the sand. A dozen wells are drilling between the upper and lower Clarke sands and should be completed within six weeks. It will require the completion of several inside wells to determine the probable peak production from the zone.

Average initial production of the few third Clarke zone producers has been large, when their locations are considered. Nearly all production is coming from points entirely outside most upper zone producing limits.

Activity in the O'Connell zone should not be overlooked, when both present and future production is considered. The lull in completions during recent weeks should not be construed to mean that the sand is about exhausted. A survey shows that that 28 wells are drilling in, 14 are cemented over and 26 are preparing to complete in the zone. These 68 operations are numerous enough to establish a new peak, but it is doubtful if they will do so. Of the 26 wells ready for completion, Union Oil Company is drilling seven, General Petroleum Corporation 6, The Texas Company 3 and other companies 10. These wells are scattered over the center of the field and are expected to be representative producers.

A few operators are making a fight to eliminate the Buckbee shutoff where possible and some sort of compromise may be made. Elimination of this extra string of casing would be a distinct advantage in reaching the lower sands but would have several disadvantages as well. This procedure would reduce casing expense, make for more rapid drilling and eliminate the necessity of reducing the size of the hole at this particular point. On the other hand, danger of water entering adjoining wells would be increased. Elimination of a Buckbee zone string would permit the operator to land 13⅜-inch casing over the Meyer, 9-inch or 11-inch over the O'Connell and 6⅝-inch or 7-inch over the Clarke or Hathaway sand. In landing 6⅝-inch casing over the lower Clarke sand at around 8000-feet, it would be possible to drill additional hole and cement another string at a still greater depth.

No Sharp Drop Expected

An analysis of the week's completions shows that production is not in danger of an immediate sharp drop. Nine new wells accounted for a total initial production of 31,000 barrels, or an average of 3440 barrels. Seven of the nine completions were finished in the O'Connell zone, with one lower Clarke zone well and one Nordstrum zone producer. The average cut was considerably higher than during previous weeks but was not viewed with alarm. Pressure in the O'Connell zone completions was high, with the gas-oil ratio running considerably higher than in

earlier producers. The O'Connell zone is a compact and uniform body and is showing a strong resistance to the inevitable decline.

George F. Getty, who has developed a large production in the three main zones below the Meyer, added two more good wells in the O'Connell zone. They were No. 32, a 4000-barrel producer at 6250 feet, and No. 34, which came in with an initial yield of 5300 barrels at 6984 feet. The cut in the former was 30 per cent., while the latter showed only a trace of emulsion.

The Texas Company, already one of the largest producers in the field, completed Weaver 4 as a 3500-barrel producer in the O'Connell zone at 6842 feet. The oil was 33.1 gravity and showed one-tenth of one per cent. cut. The company's Wickman 2-B, completed at 5065 feet, was the first Nordstrum zone producer finished for several weeks, and with a production of 2400 barrels made a very creditable showing. The oil was 32 gravity and showed a cut of six per cent.

Universal Consolidated Oil Company succeeded in placing O'Connell 3 on production as a lower Clarke producer at 7672 feet, after plugging back from 7714 ft. A very satisfactory shutoff was accomplished, as was evidenced by the low cut of two per cent.

Total field production climbed to 289,000 barrels during the middle of the week, but dropped back several thousand barrels at the end of the period. Production by zones gave the Nordstrum 21,000 barrels, Buckbee 23,000 barrels, O'Connell 202,000 barrels, upper Clarke, no production, third Clarke 17,000 barrels and shallow zones 26,000 barrels.

Deep zone production was divided approximately as follows: Associated Oil Company, 9000 barrels; General Petroleum Corporation, 45,000 barrels; Richfield Oil Company, 4000 barrels; Shell Oil Company, 12,000 barrels; Standard Oil Company, 13,000 barrels; The Texas Company, 33,000 barrels; Union Oil Company, 45,000 barrels; Wilshire Oil Company, 17,000 barrels, and all other companies, 87,000 barrels.

Activity Increases At Maricopa Flats

Taft.— The Maricopa Flats district has become by far the most active sector in the Midway-Sunset area, several new wells having started during the past week. Water has caused some trouble but the few wells completed have demonstrated that the sand is very productive when a water shutoff is effected. Hancock Oil Company, which recently acquired a part of Signal Oil and Gas Company's holdings, has completed the rigs for Wallace 2 and Wallace 3, both located on Section 8-11-23. California Western Oil Company, despite an unsuccessful production test in Havenstrite 1, has completed the rig for Havenstrite 2, a direct offset. North American Consolidated Oil Company has completed rigs for Kerckhoff 1 and Kerckhoff 2, Section 8-11-23.

Shell Brings in Two Wells At Ventura

Ventura.—Shell Oil Company broke the monotony at Ventura with the completion of Taylor 41 as a 4600-barrel producer. The well was troubled with sand, however, before the production test was completed. Total depth was 7062 feet, or considerably shallower than the usual run of recent completions. The company's Taylor 38 was completed with an initial production of 2600 barrels at 6950 feet. The oil was 30 gravity and clean.

General Petroleum Corporation succeeded in placing Notten 12 on production at 7235 feet, but a flow of only 160 barrels proved disappointing for such a great depth.

M. K. and T. Oil Company is still having trouble in an effort to get another producer in the southern extension. Percy 1 is being swabbed for a flow test but the well is not responding to this agitation. This test was drilled to 7750 feet, with 4¾-inch casing cemented at 7160 feet.

Permanent Equipment Exposition Planned

Los Angeles.—A permanent exhibit of oil field equipment in Los Angeles is the objective of the Oil Field Equipment Exhibiting Corporation, which has been organized with W. G. Bradford as president and general manager and H. W. Westsmith, secretary-treasurer. The corporation has leased the basement of the Chamber of Commerce building and booths are being arranged with the expectations of opening in about 30 days.

The exhibit is to be open the year around, and the exhibitors will be able to carry visitors to the hall at any time.

A room will be fitted up as a library and reading room. Employment and information bureaus will be a part of the exhibit.

Major Gas Projects Are Planned in Western Area

Casper.—The Wyoming-Utah natural gas line will be completed and running gas by the middle of September. The line draws its supply from northerrn Colorado, southwestern Wyoming and northeastern Utah. Salt Lake will be the largest city in the system. The line will be 387 miles long and cost approximately $20,000,000. It is controlled by Ohio Oil Company, Lone Star Gas Company and Mellon Interests.

Two other major natural gas propositions loom big in the Rocky Mountain states. Moody-Seagraves interests are reported to be lining up gas reserves for a line from northern Wyoming and southern Montana to the smelters at Butte and Anaconda in Montana.

Other interests are lining up structures and reserves for a line from eastern Wyoming and western Nebraska to Omaha. The last named proposition contemplates making use of the idle Sinclair pipe line from Teapot Dome. This line is 720 miles long with its eastern terminus near Kansas City, Missouri.

Well Blows Out While Crew Plans to Sidetrick

Santa Barbara.—The Goleta district is again agog with excitement, following the blowing out of General Petroleum Corporation's More 1, a wildcat drilled to 4533 feet in an area which has not met the approval of many geologists. The well blew out while cement was being drilled out from below the shoe of a 11¾-inch string at 2590 feet.

A survey had shown the hole to be crooked below 2600 feet and the string of casing was cemented at 2590, preparatory to redrilling a new hole from this point. It was while drilling out this cement that the blowout occurred. Since good gas showings were found at various levels between 2600 feet and 4500 feet, the source of the present flow of gas is a mystery. It is an odd fact that the flow of 60 million cubic feet of gas is coming from the hole which was to have been sidetracked.

The gas was first reported as a dry product but a test showed it to contain a good quantity of gasoline. High pressure electric pumps are being used to place the well under control. If this is successful, the gas probably will be used for additional drilling.

Piedmont Land

King City, Calif.—Standard Oil Company has started drilling in Piedmont 1, Section 23-22-27, the first of a probable series of tests on the vast holdings of the Piedmont Land and Cattle Company.

Newhall

Los Angeles.—Southern California Drilling Company is making a production test in Needham 1, a wildcat located near Newhall, just outside the limits of the San Fernando Valley. The well was drilled to 1385 feet and about 50 feet of heavy oil sand was found. This well is located near some of the oldest producers in California.

Summerland

Summerland, Calif.—Abandonment of the Gaviota Oil Company's first test in this district was not considered a blow to the possibilities of a good production at around 1200 feet, but the failure of the well proved that the heavy oil sand which is producing satisfactorily in the Lincoln Drilling Company's Williams 1 will not extend a considerable distance to the east. It took only a little more than a week for the Gaviota Oil Company to reach the sand and find it barren.

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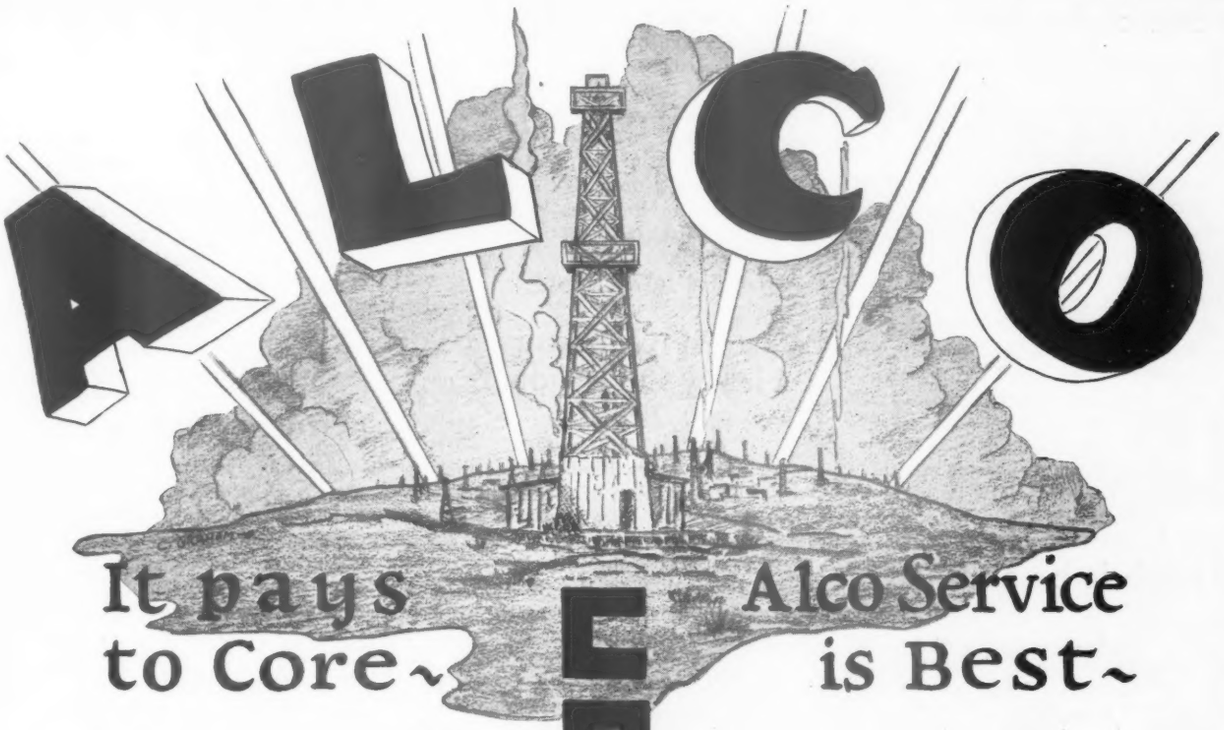

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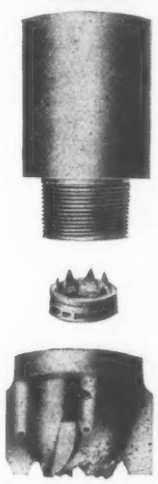

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Santa Barbara Mesa Rigs To Search for Deep Sand

Santa Barbara.—With the hope of a worthwhile production around 2200 feet virtually abandoned, two or three operators in the Santa Barbara Mesa field have decided to drill to the 3500-foot level as a possible means of retrieving their losses. This move at first seemed a possible means of sustaining still further losses, but a careful study of the structure and the fact that only 1200 feet more will need to be drilled reveal the wisdom of the decision. The cost of reaching the 2200-2400-foot was not excessive and another thousand feet with the present rig and equipment may reveal a productive formation. Nearly all wells are now shut down and many have been abandoned outright.

Kern County Record For Depth Is Established

Bakersfield, Calif.—Western Gulf Oil Company has broken all Kern County depth records in No. 8-B, Section 22-29-27, at Fruitvale, having passed a depth of 7450 feet. The well is in good condition and probably will be drilled considerably deeper. The company has developed a good production in the Fruitvale field during the past 18 months, having discovered the area in spite of the old theory that little oil would ever be found in the Valley fill.

Blowout in Goleta May Prove New Gas Field

Santa Barbara, Calif.—A permanent supply of natural gas for this city may be developed in the Goleta district, if the recent blowing out of the General Petroleum Corporation's Moore 1 opens up the gas field it promises to reveal. The well is flowing more than enough gas to supply this city and it is hoped that the discovery will not prove to be merely a pocket.

200-Mile Gas Line Is Practically Completed

San Francisco.—Pacific Gas and Electric Company's 200-mile gas line, which is destined to bring gas from the Kettleman Hills field to San Francisco and other Bay cities, is practically completed and will soon be tested in sections, preparatory to actual use by the end of August. This line was laid in record time and represents the most modern construction possible on this type of carrier.

Los Angeles Wildcats Make Little Progress

Los Angeles.—Los Angeles basin wildcats showed little change during the week, occasional tests having failed to reveal commercial production. Southwestern Oil Company is testing Day 1, an outpost test near the Richfield field, after drilling to 5780 feet. Several streaks of oil sand were cut below 5000 feet, but it was necessary to make a shutoff at 4390 feet on account of frozen casing. Burlingham Petroleum Corporation is testing No. 1, located in South Los Angeles, but the well is not making a very impressive showing from 2185 feet. California Well Drilling Company will clean out to bottom in No. 1, midway between the Long Beach and Dominguez fields, and drill deeper. The well was originally drilled to 7665 feet.

Western Operators Plan Heavy Oil Production

Bakersfield, Calif.—Increased activity in the proven and wildcat districts north of the Kern River field is regarded as the beginning of a widespread development of several square miles of heavy oil lands. Pacific Western Oil Company has made four locations on Section 22-27-28, in the Mt. Poso district, and will start drilling three wells at once. Petroleum Securities Company and Union Oil Company are also active in the same district. The demand for the grade of oil produced in this area has been very slack during the past two years.

Italo-McKeon Interests Plan Consolidation

Los Angeles.—Italo Petroleum Corporation has tentatively accepted the merger terms of the McKeon interests and if the stockholders vote to ratify the agreement the two organizations, which are composed of several companies, will be brought together into a large independent organization. It is understood that John McKeon, formerly vice-president of Richfield Oil Company, will head the new company, which will have a daily production of 16,000 barrels.

Point Concepcion

Santa Barbara.—Western Gulf Oil Company has been unable to shut off the water in Hollister 1, an important test near Point Concepcion, and is drilling deeper. A promising body of oil sand was tested between 3150 feet and 3172 feet. The well is drilling at 3190 feet, with the formation running to oil sand and shale. A blowout occurred when the oil sand was tapped but the well was brought under control without serious damage.

Slick Buys Acreage

Tulsa.—T. B. Slick has purchased a half interest from the Anderson-Prichard Oil Corporation of Oklahoma City in 21 tracts comprising 1600 acres in Township 11-2w, Oklahoma City district. Some of the acreage adjoins that already held by Slick. It is understood that he will start the operation of the property at once.

Floating Supplies To Elwood Ocean Permits

Santa Barbara.—Operators holding ocean permits in the Elwood field are overcoming the objections of more fortunate operators who hold leases on the mesa by floating in supplies and equipment to the subterraean locations. Guards are on hand to prevent trespassing over the property already developed. Even in the face of these handicaps the beach strips and ocean leases will be developed, with a fair assurance that large wells will be obtained.

Ohio Oil Investigating Mississippi Prospects

Meridian, Miss.—Briggs & Knapp are preparing to sell 600 acres near Topton, Lauderdale County, Mississippi, to the Ohio Oil Company for $5 an acre, according to reports in semi-official sources here. This price is that paid by the Gulf Refining Company for acreage in the same vicinity several weeks ago.

Reports from Aberdeen state that D. H. Kelsey, president of the Prairie Oil & Gas Company of Independence, Kansas, has acquired 255 acres from T. B. Slick, who owns 3400 acres in Monroe County, where the only commercial gas well in this state is located. The leases were recorded at Aberdeen with the chancery clerk.

13-Cent Freight Rate Given Darst Creek Oil

Luling, Texas.—The Texas Railroad Commission has authorized a freight rate of 13 cents per 100 pounds on crude oil from Darst Creek field, Gaudalupe County, originating in tank car lots at Seguin, Kingsbury and Sullivan to refineries and export terminals at Baytown, Beaumont, Chaison, Corpus Christi, Galveston, Houston, Lucas, Orange, Port Aransas, Port Arthur, Sabine Pass and West Port Arthur.

The Texas Pipe Line Company is completing an eight-mile six-inch line from its discovery well of the above field to a tank car rack near Sullivan. Other tank car shippers may start operations as development of the field progresses.

Franchises Transferred to Southern Cities

Shreveport.—Arkansas Natural Gas Corporation has transferred to its subsidiary, Southern Cities Distributing Company, local gas firm, the gas distribution systems and operating franchises in a number of small towns in North Louisiana, South Arkansas, and Bethany, Texas.

Towns affected by the transfer are: Plain Dealing, Belcher, Gilliam, Hosston, Oil City, Pine Island, East Point, and several lines in Red River Parish, all in Louisiana and Doddridge, Garland and Fouke, Arkansas.

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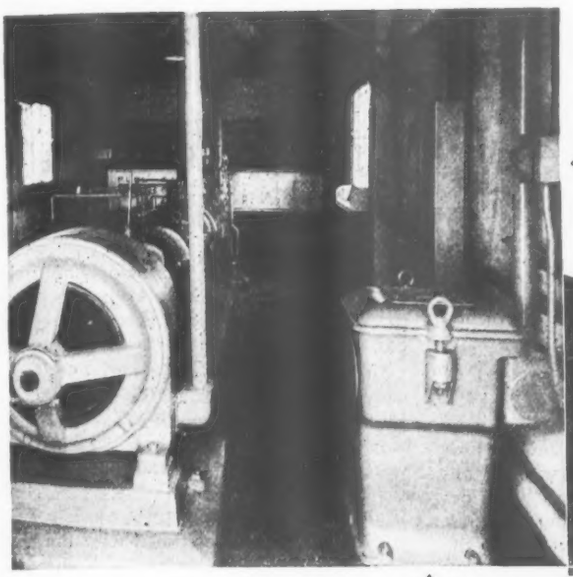

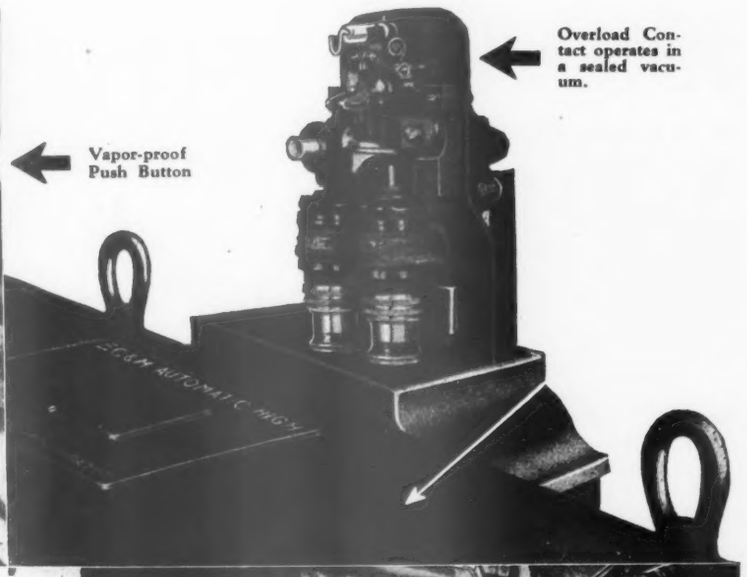

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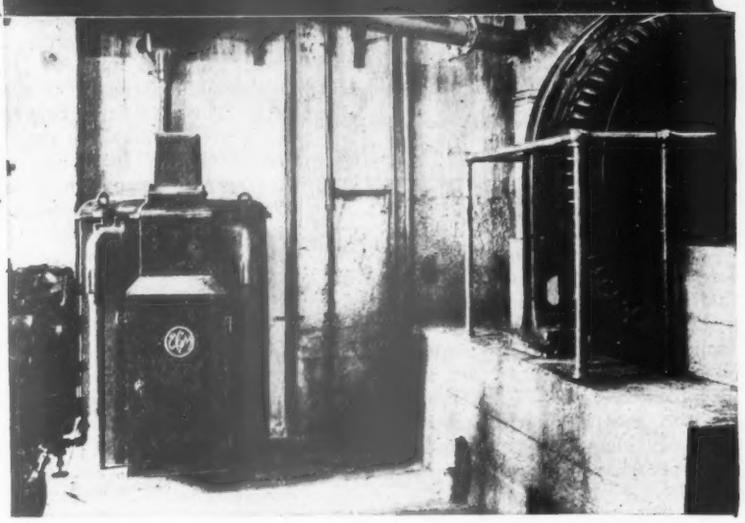

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Kettleman Hills Facing Two Year Suspension

COALINGA, Calif.—With an almost complete shutdown apparently in the offing, drilling operations at Kettleman Hills have not yet reflected the pressure being brought to bear on operators to clear the way for a two-year suspension on the North Dome. A dozen wells are struggling with the very hard sand below 6000 feet, with three or four about ready for the final test.

Standard Oil Company of California has decided to let No. 81, Section 11-22-17, flow as long as it performs in its present manner. The well was tested two weeks ago at 6673 feet and started off with a flow of 475 barrels of 56 gravity oil and about 12 million cubic feet of gas. Production increased to 975 barrels before sand broke in and stopped the flow. After being cleaned out, the well came back with a flow of 850 barrels of 60 gravity oil and 20 million cubic feet of gas. Production is coming from about 500 feet above the level from which Milham Exploration Company's discovery well is flowing. Since the producer is a direct offset to the discovery well, proof has been established that it will be possible to complete wells at various depths between 6200 feet and 7200 feet.

Milham Exploration Company is drilling at 7115 feet in Kennedy 1, Section 28-21-17, an important test located more than two miles northwest of the company's discovery well. Failure to find a satisfactory formation in which to complete this well has caused some concern. A nine-inch shutoff was made at 6392 feet. The present formation is a hard sand. The company's Elliott 2, which is almost sure to be a producer, is drilling at 6750 feet in a hard shale.

Shell Oil Company has passed 6825 feet in Armstrong 1, and will make another production test when a favorable body of sand is cut. On the whole, the well has not shown quite the life expected of it below the shutoff at 6360 feet. The sand shows gas and cuts light oil in acetone.

Ohio Oil Company's Smith 1, an important test on the South Dome, has reached a depth of 6725 feet and is showing signs of becoming a producer. A heavy gas pressure was developed just below 5000 feet and streaks of oil and gas sand have been cut at irregular intervals.

Marland Oil Company is making good time in Elliott 12-8, Section 12-22-17, having passed 6720 feet. The company is drilling another well on Section 2-22-17 and has three other locations on the same section.

Richfield Oil Earnings Show Good Increase

Los Angeles.—Net earnings of Richfield Oil Company of California, including Pan American Western Petroleum Company and subsidiaries, but excluding Richfield Oil Corporation of New York, for the first six months of 1929 totaled $4,240,397. Earnings during the second quarter of 1929 were $1.14 per share, as compared with 91 cents per share during the same period of 1928.

Detailed figures for the six months ended June 30, 1929, together with comparative figures for the corresponding period of 1928 follow, the 1929 figures including and the 1928 figures excluding Pan American:

JUNE 30	1929	1928
Net Sales	39,997,014	20,420,945
Net Operating Income	9,324,101	5,685,188
Depreciation, Depletion, Intangible Drilling Expense and Abandonments	3,747,564	2,085,612
Net Income before Interest and Federal Income Tax	5,576,537	3,599,576
Interest Charges	1,055,140	338,892
Net Income before Federal Income Tax	4,521,397	3,260,684
Provision for Federal Income Tax	275,000	150,000
Net Income Available for Dividends	4,246,397	3,110,684
Preferred Dividends	349,913	290,041
Net Income Available for Common Dividends	3,896,484	2,820,643
Shares Outstanding	1,922,310	1,615,237
Net Income Per Share	2.03	1.75

Expect Four Completions in Eddy County Soon

ARTESIA, New Mexico. — Four widely scattered semi-wildcat tests in the northeastern part of Eddy county and on a line between the Artesia and Maljamar fields are in process of completion.

Pueblo Oil Company's Russell 4, Section 18-17s-31e, encountered oil in lime at 3472-75 feet August 7, and when swabbed several times responded with a flow estimated at 100 barrels during the first hour. The well was then shut in for the night, and when the crew resumed operations the following morning it would not flow, while no increase in oil and gas followed the deepening of the hole to 3478 feet. This well is to be deepened to try for a second break in the lime. Pueblo Oil Company's semi-wildcat test on the Lee permit, located in NEc Section 34-17s-29e, passed up good show of 35.3 gravity oil encountered at 2542-43 feet and obtained an increase at 2970-75 feet. This test was drilling in lime at 3040 feet late last week with 500 feet of oil in hole.

Prairie Oil & Gas Company's Keel 2, Section 7-17s-31e, developed 350 feet oil in hole while drilling gray lime at 3380 feet after penetrating oil showings at 2820-25 feet, 3315 and best production at 3337-43 feet.

Flynn, Welch & Yates, who are pioneer operators in the Artesia field, report 2700 feet of oil in hole after passing through lime horizons at 2955, 3360-73 feet, and at 3400-10 feet.

Grayburg Oil Company of New Mexico has replaced its wildcat producer on the Burch permit, Section 19-17s-30e, on the pump for a daily output of 70 barrels of high gravity oil daily after deepening to 3200 feet without an increase in oil or gas.

In Lea County, Continental Oil Company and the California Company's H. A. Flint permit 1, Section 28-20s-34e, is plugging after developing hole full of sulphur water at 5760-3840 feet. J. D. Cooke et al's State 1, Section 12-21s-33e, has reached 3800 feet, after logging top of brown lime at 3705 feet, and shut down with the hole dry.

Deeper drilling by Continental Oil Company and the California Company's E. J. Wells permit 1, which was reported last week as having extended the Jal 1½ miles north, resulted in sulphur water being encountered at 3463-67 feet and an increase in water at 3492-95 feet. This well flowed 165 barrels clean oil and three million cubic feet of gas at 3390-3438 feet, and at last reports was flowing 366 barrels of fluid daily, 85 per cent. water, while drilling ahead at 3527 feet.

Two semi-wildcat tests in the Hobbs pool, Lea County, encountered gas in the upper lime formation during the past week. Harry Walker et al's O. B. Terry 1, Section 10-19s-38e, scored first show gas at 2912 feet and increased to two million cubic feet at 3305 feet, with a good show oil at 3265-75 feet. Humble Oil & Refining Company's Bowers 1, Section 30-18s-38e, has mudded off 10 million cubic feet of gas at 2772 feet after encountering the top of brown lime at 2752 feet. It is drilling ahead at 2790 feet. In this same area, Mid-West Refining Company's W. S. Capps 1, Section 3-19s-38e, averaged 700 barrels of 36.6 gravity oil daily flow during the past week from lime at 4065-4220 feet. Empire Gas & Fuel Company is plugging its Martin permit 1, Section 28-20s-33e, as a failure at a total depth of 3825 feet, with hole full of sulphur water at 3750-3825 feet. Gypsy Oil Company's Humphries permit 1, Section 25-25s-36e, an east offset to Skelly Oil Company's pumper on the Joyner permit, is flowing sulphur water at 3422-30 feet, having failed to make an oil producer in the expected horizon.

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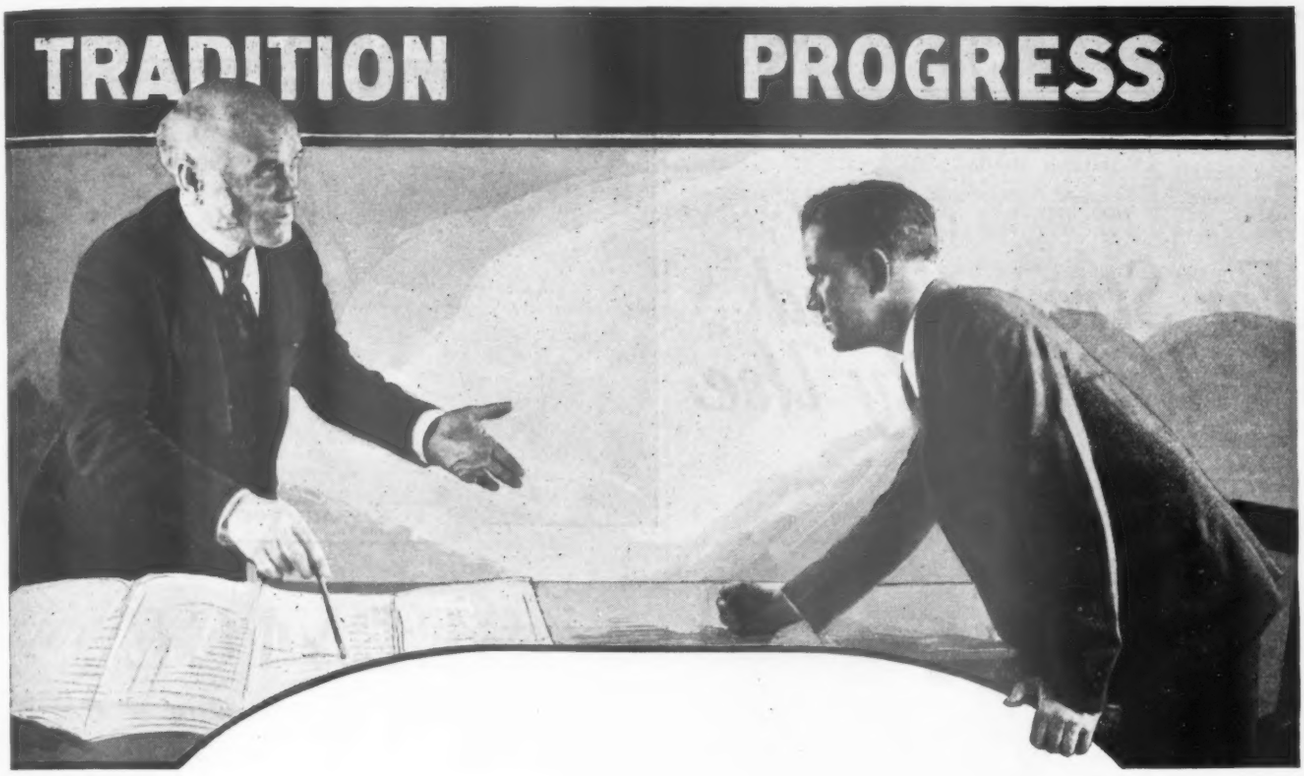

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No other welder has all these features.

"Easy, Pop—

It makes the grade **on high.** SPEED and STRENGTH is the middle and last name for an arc-welded line—'Stable Arc' being the **first.**

And further it's miles ahead of a newfangled idea—about 2,500 miles ahead.

. . . . That's the amount of pipe lines that have been constructed or are under way.

Arc welding has literally taken the industry by storm—and this storm has served to unbend every man—unless held erect by stiff bosom shirts or boils."

The Lincoln Electric Co., Dept. No. 33-6, Cleveland, Ohio

W-87

"Stable Arc"
LINCOLN WELDER

For Strength and Uniformity Use

WICKWIRE SPENCER WIRE ROPE

Look for the triangle on the reel

WICKWIRE SPENCER STEEL COMPANY

41 East 42nd St., New York City

Wickwire Spencer Sales Corp.
1304 The Philtower,
Tulsa, Okla.

T. T. Word Supply Co.
Houston, Texas

A. F. Keck & Co.
Butler, Pa.

Acme Tool Co.,
Breckenridge, Texas

WICKWIRE SPENCER
UNIFORM WIRE ROPE

ST. BERNARD DOG
OF THE ALPS

SERVICE

A characteristic of the St. Bernard Dog and also of the products manufactured by The Garlock Packing Co., Palmyra, N. Y.

THE St. Bernard Dog won both his name and fame in the Swiss Alps, where the monks of the Hospice St. Bernard used dogs of this type to assist them in saving the lives of travelers lost in the snow. Many years of such training has developed in the St. Bernard the unusual ability to find the wanderer and bring him the necessary sustenance to keep him alive until rescued.

The St. Bernard serves mankind in the Swiss Alps . . . and Garlock Mechanical Packing serves industry throughout the world. This service is rendered through a corps of Garlock Service Men who are trained packing experts.

Pick out a packing condition that is giving trouble and request a recommendation from a Garlock Service Man. He will cure it by making use of his unlimited packing experience supplemented by the knowledge of properly applying the right Garlock Packing.

COMPLETIONS FOR PAST WEEK IN U.S. FIELDS

CALIFORNIA

Company, Well and Loctaion	Initial Production Bbls.	Depth
BELRIDGE—		
Ohio Oil Co., No. 28	40	769
KETTLEMAN HILLS—		
Standard Oil Co., No. 81, 11-22-17	900	6673
LONG BEACH—		
Archer Oil Co., Reagan 1	700	6745
Bush-Voorhies, Brennecke 1	1000	6475
Continental Oil Co., Modoc 1	700	7596
Petroleum Securities Co., Nelson 1	1600	7405
Strader Oil Co., Vista Del Mar 1	700	4765
The State Co., Sievers 1	2150	6820
Warren and Macrate, McKay 9	1500	7425
SANTA BARBARA—		
Harry Failing, Morrison 1	*	....
SANTA FE SPRINGS—		
Associated Oil Co., Dallugge 7	400	8100
Bandini Pet. Co., Off 8	9000	6850
Off 16	5000	6847
H. A. Bardeen, S. F. 2	900	6850
Shell Oil Co., G. H. N. 13	2400	6845
Standard Oil Co., Weisel 13	3600	8033
Union Oil Co., Alexander 16	2800	6892
Universal Consolidated Oil Co., O'Connell 2	1200	6450
General Pet. Corp., Hill-Midway 103	4300	6827
Wilshire Oil Co., Cecelia 1-B	4000	7100
Shell Oil Co., Slusher B-2	2200	7770
George F. Getty, Hill 20-A	3500	6900
Standard Oil Co., S. W. C. 26	1600	6529
RICHFIELD—		
Continental Oil Co., Mondode 1	300	4425
Pyne 7-A	400	4450
SUMMERLAND—		
Lincoln Drilling Co., Williams 1	300	1417
VENTURA—		
General Pet. Corp., Notten 12	160	7235
Shell Oil Co., Taylor 38	2600	6950
Taylor 41	4600	7062

OKLAHOMA

Company, Well and Location	Initial Production Bbls.	Depth
CARTER COUNTY—		
H. L. Sturm, Fish 3, nw se sw, 35-3s-2w	5	920
Atlantic Oil Producing, Taylor 3, nw sw nw, 12-1s-4w	140	3570
Magnolia, Sims 1, se sw se, 2-1s-4w	110	3680
CREEK COUNTY—		
Sooner, Bruner 3, c se sw, 12-17-11e	15	1178
J. E. Murphy et al, Bruner 2, csl ne sw, 12-17-11e	10	1242
Thompson and Black, Wilson 4, nw sw, 16-17-11e	*	753
C. N. White, Tiger 1A, ne sw nw, 14-18-11e	*	2845
Prairie, Ladd 2, (owdd) nw ne se, 18-16-9e	*	3042
HUGHES COUNTY—		
Texas, Bryant 1, se ne sw, 9-6-8e	100	2666
KAY COUNTY—		
Marland, White 4, ne nw, 17-29-1e	*	3565
KIOWA COUNTY—		
Rymer et al, Hobbs 1, se sw sw, 7-6n-16w	*	530
MARSHALL COUNTY—		
Bilbo Oil Trust, Davis 1, sw se nw nw, 30-5s-6e	10	567
MUSKOGEE COUNTY—		
Robinson Bros., Lewis 3, nw sw ne, 8-13-16e	20	1658
Mazda, Jackson 2, cel se nw, 8-13-16e	20	1654
Bryan, Barnett 8, cel se ne, 8-15-15e	50	1667
D. C. Bradley, Anderson 1, nw sw, 26-15-19e	*	1212
J. A. Swindler, Howard 1A, nw sw nw, 29-15-16e	*	1223
H. Burke, Walker 1A, cwl sw sw, 7-15-18e	*	1035
OKFUSKEE COUNTY—		
Prairie and T. B. Slick, Scott 1, se ne, 25-10-11e	*	3165
The Producers & Refiners et al, Monarye 5, se, 29-12-10e	150	2921
J. E. Wallace, Colbert 9, cwl sw ne, 14-14-14e	15	1072
F. D. Misener, Colbert 2, cel se nw, 14-14-14e	12	1753
Riverland, Atkins 1A, cwl se, 17-13-15e	*	2847
OKLAHOMA COUNTY—		
The Prairie and T. B. Slick, Hudleston 1, sw se, 19-11-2w	¶35	6433
OSAGE COUNTY—		
Gray 9, cel w½ ne, 28-20-11e	35	2135
Devonian 3, cnl nw sw, 30-21-10	15	2134
Elliott and Smith 1, nw ne, 31-22-12e	10	1339
A. G. Oliphant 3, nw ne nw, 6-23-9e	50	2154
Grace Maxwell 3, nw ne se sw, 5-24-11e	5	1712
Peters 8, nw ne se nw, 32-24-9e	3	626
10, sw ne nw, 26-25-9e	200	2134
The Texas 7, ne sw se, 30-25-8e	80	2467
Indian Territory Illuminating 1, sw nw, 16-27-10e	80	1880
411, se nw nw, 1-28-10e	¶1	495
Winona 12, se sw sw, 22-29-11e	15	1005
PAWNEE COUNTY—		
The Prairie, McNeal 10, sw ne nw, 10-20-8e	10	2480
P. Adamson, Parker 3, sw se se, 24-21-7e	200	2742
PAYNE COUNTY—		
Reiter-Foster Corp. et al, Watkins 1, c sw se, 5-19-1w	100	4844
POTTAWATOMIE COUNTY—		
Gypsy, Kennedy 1, nw sw, 1-7-4e	*	4350
G. W. Stogner et al, Townlot 1, ne se sw, 18-6-4e	*	4012
Empire, Smith 2, se ne, 8-8-5e	1360	4060
Magnolia, Jones 1, se ne, 18-7-4e	135	3926
Mid Continent, Decker 1, se, 8-7-4e	175	4058
Darby, Nixon 1, sw, 9-7-4e	125	4090
Magnolia, Richardson 1, nw sw sw, 15-7-4e	90	3900
Billington 1, ne nw ne, 22-7-4e	¶5	3660
Independent & Westland, Rhodd 2, sw nw nw, 16-7-4e	1385	4061
Gypsy, Green 2, sw nw se, 17-7-4e	660	4178
Martin and Erwin, Kelly (owdd) se ne ne, 2-7-4e	700	4145
SEMINOLE COUNTY—		
Carter, Larney 3, ne sw nw, 26-7-6e	185	3169
Walker 2, sw ne nw, 24-7-6e	965	4155
Barnsdall, Cotcha 3, sw nw ne, 23-7-6e	600	3179
The Texas, Janey 7, (twin) se ne sw, 11-7-6e	¶50	3159
Empire, Cluck 14, ne se, 11-8-5e	495	4204
Carter, Coker 2, sw se sw, 2-8-5e	1765	4232
Magnolia, Anderson 2, nw se, 18-9-6e	4800	4262
Carter et al, Sanford 1, nw se, 16-9-6e	275	3532
Skelly, Prairie, T. B. Slick, Varnum 1, nw, 5-9-6e	510	4337
Prairie, Townsend 2, cnl ne sw, 6-8-6e	1010	4515
Gypsy, Cozad 1, sw, 27-7-6e	*	4388
Superior, Gypsy, Thomas 1, se ne, 11-9-6e	*	4429
Indian Territory Illuminating, Porter 1, ne, 24-6-7e	*	4300
Prairie, Billington 10, ne sw nw, 11-8-5e	*	4289
STEPHENS COUNTY—		
Wirt Franklin, Brittain 5, sw nw se, 12-1s-4w	50	3213
WAGONER COUNTY—		
Elk Drlg. Co., Childers 4, se nw se, 29-18-17e	*	450
Creekmore et al, Tiger 11, csl nw sw, 21-18-16e	*	780

KANSAS

Company, Well and Location	Initial Production Bbls.	Depth
BARBER COUNTY—		
Barbara, Angel 1, c nw ne, 14-33-13w	¶15	4630
BUTLER COUNTY—		
Empire, Nixon 1, sw se se, 15-27-5e	40	2772
Cranston 10, sw se se, 22-27-5e	275	2766
CHAUTAUQUA COUNTY—		
E. B. Miller, Wiggam 2, se, 33-32-10e	30	1500
ELLIS COUNTY—		
Phillips, Johnson 1, sw ne, 9-13-19w	300	3595
GREENWOOD COUNTY—		
Murphy et al, Olsen 7, ne nw ne, 6-25-9e	90	2151
Texas, Edwards "C" 7, se sw se, 21-23-11e	500	1971
Phillips, Beal 1, ne nw ne, 28-23-11e	650	1965
Shafer and Howell, Sudder 15, cnl ne nw, 15-23-13e	10	1811
West Coast Leasing Co., Souder 1, nw sw se, 5-26-13e	*	1729
Phillips, Pixlee 4, ne nw, 10-22-10e	*	2300
KINGMAN COUNTY—		
Fleeger-Houston, Rayl 1, ne se sw, 16-27-7w	*	1337
MARION COUNTY—		
Darby, Nickle 4, sw ne se, 12-19-2e	85	2852
General Utilities, Burkholder 1, c nw, 17-19-3e . abandoned location.		
SEDGWICK COUNTY—		
Texas, Blood 1, nw sw sw, 21-28-1e	470	3102
Bu Vi Bar, et al, Wright 6, ne, 12-26-1w	540	3365
Wentz, Bright 1, se ne nw, 1-26-1w	277	3342
Davis and Skelly, Wilson 11, sw nw ne, 1-26-1w	200	3357
Wilson 10, nw sw ne, 1-26-1w	800	3379
Bu Vi Bar et al, Carr 7, ne sw, 1-26-1w	115	3367
Slick et al, McKay 1, sw se sw ne, 11-26-2e	*	3180
WOODSON COUNTY—		
S. T. Peterson, Andrews 2, ne se sw, 31-23-16e	*	1535

MICHIGAN

Company, Well and Location	Initial Production Bbls.	Depth
MUSKEGON COUNTY—		
Rock Oil Co., Dinan 1	1.700	2053
Royal Oil Co., Young 2	1.250	2043
Neely, Foster & Co., Hewitt 1	800	2016
Muskegon Oil Corp., Daniloff 6	200	2027
Lima Oil Corp., Shuler 4	*	2070
ISABELLA COUNTY—		
Athens O. & G. Co., Bufford 1	*	3700
Curtis 1	*	3682
MIDLAND COUNTY—		
Pure Oil Co., Root 2	500	3582
NEWYAGO COUNTY—		
Sherman Oil & Gas Co., Hoppa 1	*	2950

SUMMARIZED REVIEW OF FIELD RESULTS

State—	Completions This week	Completions Last week	Producers This week	Producers Last week	Gas Wells This week	Gas Wells Last week	Failures This week	Failures Last week	Initial Prod. This week	Initial Prod. Last week
Arkansas	4	2	1	1	..	..	3	1	94	20
California	30	12	28	10	..	..	2	2	58,550	6,700
Illinois	5	25	3	21	..	..	2	4	96	1,694
Indiana	1	1	..	..	..	1	1	..	...	...
Kansas	21	32	15	20	1	..	5	12	4,382	7,294
Kentucky	39	31	22	18	5	4	12	9	1,509	436
Louisiana	21	26	8	10	8	6	5	10	3,922	1,614
Michigan	9	17	5	16	..	..	4	1	4,450	7,210
Ohio	60	66	18	29	26	22	16	15	1,332	584
Oklahoma	66	81	45	38	3	11	18	32	20,243	11,668
Pennsylvania	2	45	2	39	..	5	..	1	...	146
Texas	200	209	105	121	18	10	77	78	51,516	53,522
West Virginia	22	21	9	5	11	16	2	..	97	42
Total	480	568	261	328	72	75	147	165	146,191	90,930
Increase this year	..	..	..	..	..	..	..	..	55,261	...
Decrease this year	88	..	67	..	3	..	18	..	...	...

EASTERN STATES

PENNSYLVANIA

Company, Well and Loctaion	Initial Production Bbls.	Depth
GREENE COUNTY—		
Staggers O. & G. Co. 2	¶1¼	....
H. D. Freeland & Co., Kerns 1	¶2	....

WEST VIRGINIA

RITCHIE COUNTY—		
Pittsburg-W. Va. Gas Co., Hall 4973	*	....
Samuel Whan, Nutt 5	¶¼	....
B. C. Deem & Co., Hall Hrs. 1	¶½	....
Hudson & New York Pet. Co., Cokley Hrs. 3	2	....
C. B. Burk, W. Va., Tract 18	6	....
ROANE COUNTY—		
D. W. Law & Co., Riddle 1	10	....
Federal O. & G. Co., Pell Newman 45	37	....
WETZEL COUNTY—		
H. M. C. O. & G. Co., Nuzum 1	2	....
Littleton O. & G. Co., Dennid 1	10	....
DODDRIDGE COUNTY—		
Godfrey L. Cabot, Chipps 2	10	....
Trainer Bros. & Ash, Bates 1	¶¼	2992
LINCOLN COUNTY—		
United Fuel Gas Co., Thompson 3945	¶½	....
C. C. Wolfe, Meadows 2	¶¾	....
CALHOUN COUNTY—		
George Hamilton, Ball 1	¶¼	....
F. F. McIntosh, Price 1	¶¼	....
CLAY COUNTY—		
Virginian Gasoline & Oil Co., Brown-Swan 6	10	....
JACKSON COUNTY—		
Heck Oil Co., Shafer 3	10	....
LEWIS COUNTY—		
Standard Gas Co., Rinehart 1	¶2	4200
HARRISON COUNTY—		
Hope Nat. Gas Co., Sommerville 4970	¶2	....
GILMER COUNTY—		
Pittsburg & W. Va. Gas Co., Hays 7550	¶1½	....
BOONE COUNTY—		
Osborne Gas Co., Miller 1	¶1½	....
HANCOCK COUNTY—		
Jess Mitler, Warwick 1	*	....

KENTUCKY

DAVIESS COUNTY—		
Creek Drilling Co., Birkhead 1	¶3	....
Trognite Oil Co., Trodgen 6	75	....
Vickers & Co., J. L. Howard 4	15	....
Howard 5	*	....
Evans 5	10	....
Evans 6	*	....
Robbins, Stimson & Co., Fireline 4	10	....
Smith & Co., Cook 1	*	....
Jas. C. Ellis & Co., Tanner 1	*	....
Imperial O. & G. Co., Clark 1	*	....
BRECKENRIDGE COUNTY—		
Hoosier Dev. Co., Moorman 8	8	....
Moorman 9	10	....
ALLEN COUNTY—		
J. F. Finch, Supenor 10	*	....
I. J. Tapp & Co., Hood 1	*	....
BARREN COUNTY—		
H. R. Norris & Co., Boles 1	¶1	262
R. B. Tyler, Pedigo 1	¶½	290
Martin 4	*	524
J. H. Mann & Co., Reed 1	*	548
OHIO COUNTY—		
Hupp & Duff, L. Trodgen 12	100	....
L. Trodgen 13	150	....
L. Trodgen 14	200	....
L. Trodgen 15	200	....
Hupp & Duff, Bartlett 11	100	....
C. E. Daugherty & Co., Trdogen 6	100	....
Trodgen 7	150	....
Rex-Pyramid Oil Co., Stinnett 9	120	....
Fred Weir & Co., Norris 3	60	450
Leeper Oil Co., Evans 5	60	....
Mecca Oil Co., Wells 24	50	....
Wells 25	50	....
J. D. White & Co., Wade 3	20	....
James C. Ellis & Co., Westerfield 1	10	580
Chester Oil Co., Tanner 1	1	....
Meredith & Co., Whitley 1	10	....
Sirman Co., Farmer 14	¶1¼	....
Raydure & Birkhead, Taylor 4	*	....
Victor Oil Co., Jewell 1	*	....
Pampas O. & G. Co., Whitley 1	¶1	....
Butte Dredging Co., Evans 6	*	560

SOUTHEASTERN OHIO

Company, Well and Loctaion	Initial Production Bbls.	Depth
WASHINGTON COUNTY—		
Shay McMullen, Smith 2	¶¼	1756
J. C. Mallory & Co., Chandler 10	*	....
Beren O. & G. Co., Barnett 1	¶¼	1400
Buckley & Son, Cleveland Stone Co. 1	1	772
Southern Oil Co., Hall Heirs 11	2	....
Frank Hays & Co., Hays 2	2	....
Zwingle Bros., Hays 1	2	....
Wm. Huntsman & Co., King 1	¶¼	....
Crescent Producing Co., Plumer Heirs 1	10	....
NOBLE COUNTY—		
T. A. Clark & Co., Bryan 1	*	....
E. J. Westerman & Co., Bonar 3	2	....
E. O. Burbacker & Co., Wilson 2	2	....
MONROE COUNTY—		
F. H. Ward & Co., Ward 4	*	....
Green & Co., Brown 1	1	1417
CARROLL COUNTY—		
W. C. Kennedy Co., Roof 14	2	....
Ben Oil Co., Meel 1	2	....
MORGAN COUNTY—		
W. S. Harris, Harris 7	*	....
Malta O. & G. Co., Davis 60	*	300
Ohio Fuel Gas Co., Hummell 4	¶¾	1530
Bowman & Co., Carr 2	¶¼	1611

CENTRAL OHIO

WAYNE COUNTY—		
Gern Wooard Oil Co., Gearhart 4	*	615
STARK COUNTY—		
F. A. Hoiler, Hoiler 2	*	....
TUSCARAWAS COUNTY—		
Brick City G. & O. Co., Manjis 2	¶¼	935
LAWRENCE COUNTY—		
Inland Gas Corp., Hecla Iron & Mining Co. 5	¶2½	506
MUSKINGUM COUNTY—		
Wehrle Co., Emler 1	*	3650
Pure Oil Co., Ashcraft 1	167	3044
Athey Drilling Co., Ludman 1	¶1	3673
Athey Co., Boll 1	*	4311
Mid-East Oil Co., Moore 1, 3M Gas	20	4091
George Jewell & Co., Adams Heirs 1	¶¾	4001
ATHENS COUNTY—		
Orondorff & Co., Kasler-Salyer 1	¶¼	1596
Ohio Fuel Gas Co., Mansfield 1	¶¼	1615
Secoy 1	¶½	1168
Fleming 1	¶1	1574
HOCKING COUNTY—		
Preston Oil Co., Marks 5	25	2875
Spohn 3	*	2830
Gordon Oil Co., Stone 10	*	2879
PERRY COUNTY—		
Ohio Fuel Gas Co., Moore 1	¶¼	3567
Dun-Mar O. & G. Co., Folk 1	¶¼	1 ....
Hope Construction & Refg. Co., Davis 1	¶1½	3593
KNOX COUNTY—		
H. E. Perkins, Blubaugh 1	*	3051
Ohio Fuel Gas Co., Richert 4	¶¼	....
Kayler 1	*	....
LORAIN COUNTY—		
Ohio Fuel Gas Co., Noble 1	¶3¼	....
Weily 1	¶½	....
RICHLAND COUNTY—		
Ohio Fuel Gas Co., Rush 2	*	....
Arehart 1	*	....
ASHLAND COUNTY—		
Kemrow Co., Evil 1	¶4¼	2484
Robinson & Co., Heffelfinger 1	¶¼	725
FAIRFIELD COUNTY—		
City Nat. Gas Works, Holcomb 2	¶¼	1942
Farmer 1	¶¼	2363
JACKSON COUNTY—		
Libby-Owens Glass Co., Morgan 2	¶¼	838
Ohio Fuel Gas Co., Cline 1	*	2719
COSHOCTON COUNTY—		
Pure Oil Co., Epley 1	5	3559
LICKING COUNTY—		
Whitehill Oil Co., Burkholder 3	¶¼	878
GUERNSEY COUNTY—		
George Jewell & Co., Henderson 1	¶¼	1604
SUMMIT COUNTY—		
East Ohio Gas Co., Dailey 1	¶5	....
MEIGS COUNTY—		
Simon Lebow & Co., Krauter 3	3	1797

NORTHWESTERN OHIO

SENECA COUNTY—		
W. J. Poyser & Co., Rosenbarger 2	1.080	1517
WOOD COUNTY—		
Mays & Bushey, Biehler 2	5	....

INDIANA

Company, Well and Loctaion	Initial Production Bbls.	Depth
PIKE COUNTY—		
Roxana Pet. Co., Miley 1	*	1560

ILLINOIS

ST CLAIR COUNTY—		
Robert Murray, Reichert 1	55	592
Majestic Oil Co., McDaniel 1	40	570
CLARK COUNTY—		
Wade, Evans & Co., Madison 1	*	....
R. G. Holmes & Co., Dawson 1	*	....
CRAWFORD COUNTY—		
One Sixth Oil Co., Randolph 2	1	1035

ARKANSAS

OUACHITA COUNTY (Smackover)—		
Standard Oil Co., Powell 7, 34-15-15	94	1975
UNION COUNTY (Smackover)—		
Lovett et al, Goodwin 1, 3-16-16	sw	3195
UNION COUNTY (Champagnelle) —		
Root Ref. Co., Oliver 1, 18-17-13	*	3308

NORTH LOUISIANA

BOSSIER PARISH—		
Palmer Corp., McDade 2, 13-17-12	¶2	1700
CADDO PARISH—		
Woodley Pet. Co., Knight A-4, —16-12	¶2	1935
Shreveport Oil Corp., Cheshire 1, 32-21-15	5	1640
Texas Co., Levee Board 69, 27-21-16	55	1839
LASALLE PARISH—		
Gardner et al, Harper 13, 23-10-1e	30	1510
Montague Oil Co., Zenoria Lbr. Co. 7, 11-9-1e	¶¼	1288
MOREHOUSE PARISH—		
Natural Gas Prod. Co., Tensas Delta 16, 4-22-4e	¶2	2260
OUACHITA PARISH—		
West Virginia O. & G. Co., West Virginia 8, 8-18-4e	¶5	2203
RICHLAND PARISH—		
International Gas Prod. Co., Beck 1, 25-16-6e	¶51	2460
WEBSTER PARISH—		
Ohio Oil Co., Bodcaw 43, 24-21-10	¶5¼	4639

TEXAS

EAST TEXAS

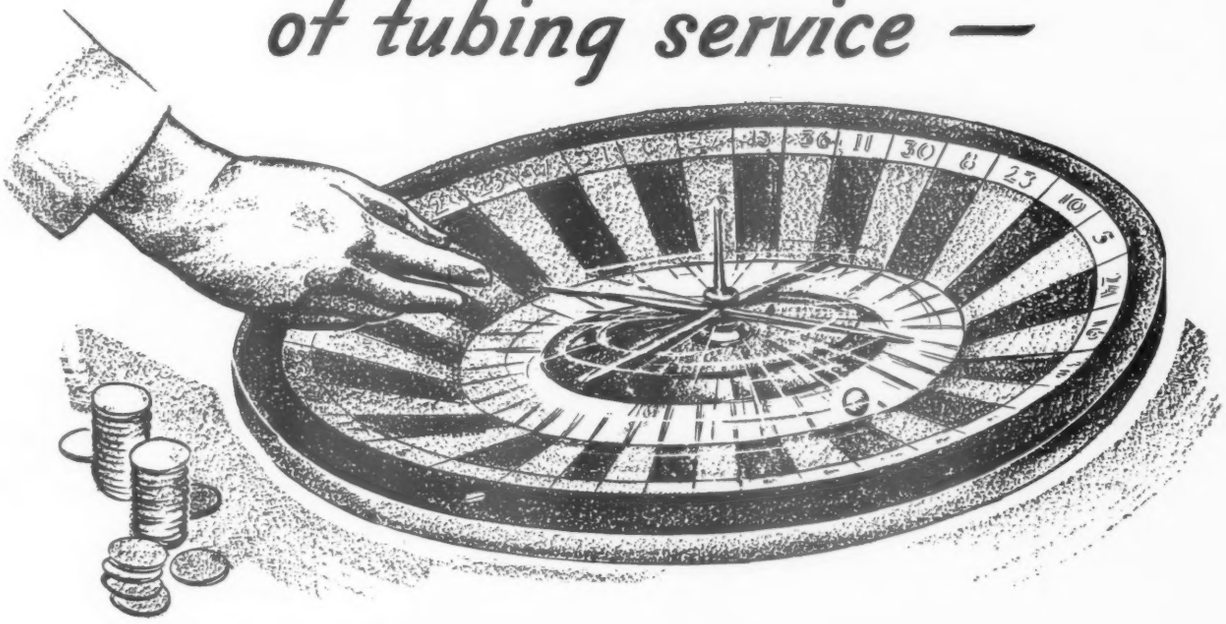
PANOLA COUNTY—		
Nemours Corp., G. E. Brumble 5, B. C. Jordan sur	¶1½	2300

CENTRAL WEST TEXAS

BROWN COUNTY—		
Beall-Gully et al, Armstrong 1	*	1500
Gore & Brown, Mayes 4	*	1955
Green Prod. Co., Moore 8	20	1280
Nystel et al, Guyer 1	3	1090
S. B. Owens, Inc., Cannon 2	30	1151
The Texas Co., Johnson 3	70	1329
Ven-Mex Oil Co., Hickman 7	†	430
CALLAHAN COUNTY—		
L. G. Bradstreet & Holden, Cavenaugh 4-A	40	1682
Miller 4	40	1693
Mook-Texas Oil Co., Johnson 1	15	1651
COLEMAN COUNTY—		
Eastland Oil Co. & Chestnut & Smith, Morris 10-A	850	2022
Clark & Cowden, Pirtle 1	*	728
Jameson-Pollard et al, Hutchings 3	¶5	2375
B. S. Joines et al, Rendleman 1	*	1750
Smith & Shaffer, Russell 3	¶2	2275
EASTLAND COUNTY—		
Atwood et al, Ainsworth 1	*	1256
Dyar Bros. et al, Cunningham 2-B	*	3618
Kirk et al, Oldham 1	*	3004
Thompson et al, Green 1	*	4051
PALO PINTO COUNTY—		
R. O. Rochelle et al, Diamond 1	*	435
SHACKELFORD COUNTY—		
Geo. Callihan et al, Nail 8	10	1550
Dull-Earls Texas Co., Matthews 2-B	*	1291
Gilbert Johnson, Inc., Moberly 1	*	272
Manning et al, Moberly 4	15	970
Roeser-Pendleton & Continental, Cook 7-A, (Sec. 88)	150	1391
Sedgwick O&G Co. et al, Morris-Buie 1	35	1601
Tannehill et al, Matthews 6	50	1165

(Continued on page 78)

WROUGHT IRON
takes the gamble out of tubing service —



You don't take any chance when you specify genuine wrought iron tubing of BYERS make, because wrought iron has long demonstrated its ability to give two to five times greater service than ordinary pipe material. A large number of service records in oil fields everywhere conclusively demonstrate the superior qualities of corrosive resistance displayed by BYERS Tubing.

Why gamble with cheaper material? Why risk expensive interruptions and delays, due to premature tubing failures? Insist on genuine BYERS. It will keep faith with you as it is now doing with hundreds of others.

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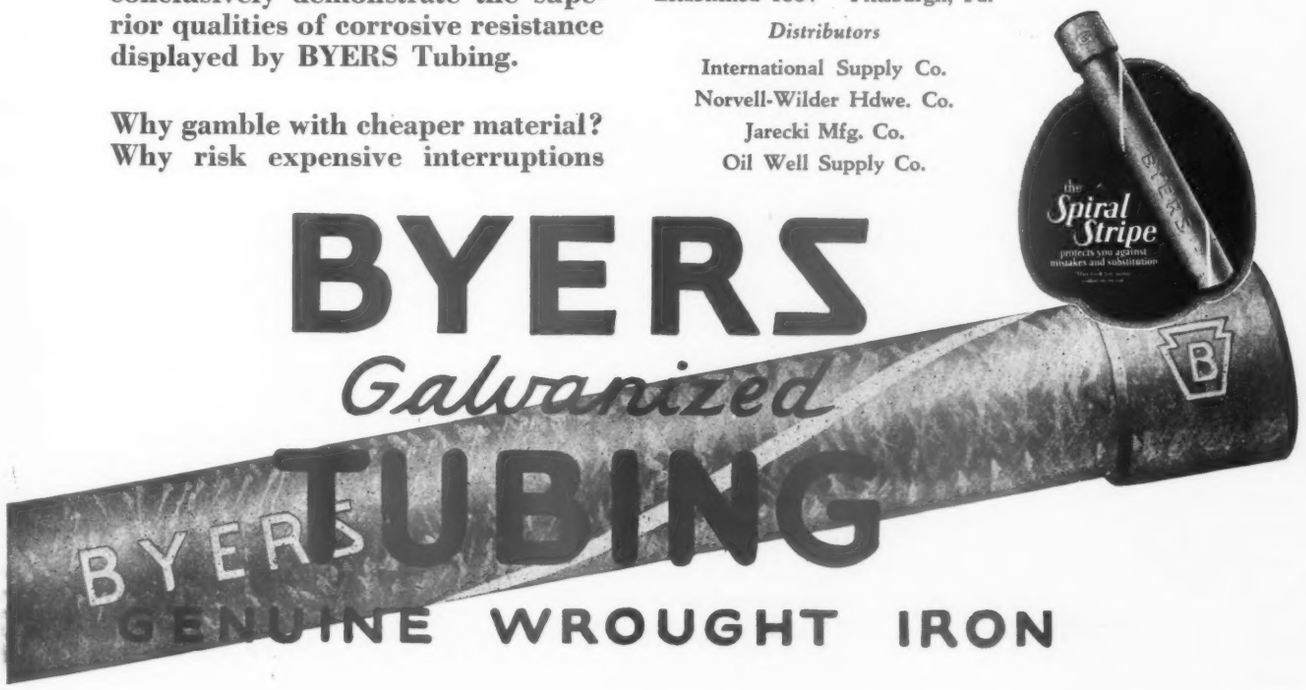
Jarecki Mfg. Co.
Oil Well Supply Co.



BYERS
Galvanized TUBING

(Continued from page 76)

TEXAS PANHANDLE

Company, Well and Loctaion	Initial Production Bbls.	Depth
CARSON COUNTY—		
Cities Service Gas Co., Burnett 17	¶17	2560
C. E. & G. W. Deahl 1	¶28	2962
McConnell Oil Co., J. C. McConnell 1	¶30	3278
Ryan Consolidated Pet. Corp., Block 3	400	3065
GRAY COUNTY—		
Gulf Prod. Co., Wm. Jackson 5	250	3107
Wm. Jackson 3	1010	2951
Nabob Oil Co., J. S. Morse 2	200	2607
Phillips Pet. Co., Jackson-Joe Dan 5	3100	2962
Jackson-Joe Dan 6	1925	2985
Shell Pet. Corp., R. S. McConnell 3	*	3535
The Texas Co., J. B. Bowers 9	7950	2977
J. B. Bowers 10	¶2-1250	2960
Cook-Faulkner 3	200	2875
Cook-Faulkner 6	320	2874
J. M. Patton 2	100	2905
HUTCHINSON COUNTY—		
Oil Operators Trust & Continental, Sanford 2	20	3039
Orphan Synd. et al, Cockrell 1	10	3040
Sunny Jim Oil Co., H. W. Pitts 3	35	2805
MOORE COUNTY—		
Amarillo Oil Co., J. C. Warrick 2-A	¶60	3250
Phillips Pet. Co., W. H. Taylor 1	¶20	3507
Skelly Oil Co., Armstrong-Byrd 8	115	3131
Armstrong-Byrd 9	190	3141
WHEELER COUNTY—		
Gibson Oil Corp., W. E. Bentley 8	*	2420
Gillespie et al, W. McMurtry 1	¶12	2447
Lone Star Gas Co., R. Griswold 2	¶50	1865

NORTH TEXAS

Company, Well and Loctaion	Initial Production Bbls.	Depth
ARCHER COUNTY—		
Bridwell Oil Co., Andrews 1	*	1450
Bridwell & Continental Oil Co., Logan 4	13	1142
Lester T. Burns, Wilson 5-M	*	1550
Burns & The Texas Co., Garvey 1	*	1265
Douglas Oil Co., McClure 1	†	1169
Humble O&R Co., Kunkle 6	230	1148
Moran Drlg. Co. & Independent O. & G. Co., Bloodworth 3	10	1228
J. B. Peacock et al, Williams 2	*	587
Petroleum Prod. Co. et al, Kunkle 8-B	85	1173
Kunkle 9-B	40	1166
Shappell Oil Co., Lyles 9	*	1714
E. J. Stump & Co., Ward 1	*	1138
United Prod. & Pet. Co., Wilson 2-J	*	1628
Wilson 1-K	*	1610
C. C. Williams et al, Bounds 1	*	1152
W. C. Young et al, Fee 3	*	1300
CLAY COUNTY—		
R. T. Belcher et al, Landrum 1	†	1795
Mid-Continent Holding Co., Johnson 1-B	3	285
Johnson 2-B	2	285
Johnson 3-B	125	1701
Stine 4-A	¶½	1812
COOKE COUNTY—		
Benson Bros. et al, Haverkamp 2	*	1601
Danciger O&R Co., J. M. Huggins 3	355	1150
Faith Oil Co., Campbell 1	*	1696
Tomlinson 1	*	1334
Humble O&R Co., Poteet 3	200	1468
Poteet 4	250	1525
Field-Bowers 3	*	1607
ELECTRA—		
Continental Oil Co., Waggoner Bros. 3-C	*	1860
Golding-Cochran, Waggoner Bros. 8	120	1297
W. H. Hammon et al, Waggoner Bros. 1-D	*	1907
FOARD COUNTY—		
Shell Pet. Corp. & Fain-McGaha, Johnson 1	180	2041
GRAYSON COUNTY—		
Sherman Oil Co., Dalton 2	¶3	899
Texas-State Oil Co., Wall 3	¶2	897
JACK COUNTY—		
L. C. Harper et al, Leffel-Box 3	350	3115
Panhandle Ref. Co., Box 1	75	3165
K-M-A AND IOWA PARK—		
Melat-Graham & Christie, Chilson 1	30	1811
THROCKMORTON COUNTY—		
Combest Oil Co., Tuton 1	*	827
Hays & Hodges, Matthews 1	*	1405
Shappell Oil Co., Upshur 3	25	1260
WILBARGER COUNTY—		
Baker et al, Waggoner 2-H	*	1961
C. P. Burton et al, Waggoner 1-C	*	1902
Empire Gas & Fuel Co., Waggoner 1-C	25	2490
Waggoner 8-C	20	1932
Fain-McGaha, Waggoner 14-W	145	2315
Waggoner 15-W	80	1859
Grayback Dev. Co., Waggoner-Allman 1	100	1871
Waggoner-Boggy 10	*	1901
Peckham et al, Waggoner 1	*	2014
Phillips Pet. Co., Waggoner 4-S	50	2419
Shappell Oil Co., Smith 1	*	3138
Staley-Wynne & Co., Waggoner 9-G	25	1869
YOUNG COUNTY—		
C. W. Boller et al, Hunt 3	*	1050
Hunt 4	*	1038
Carpenter et al, Barrett 3	10	631
Barrett 4	30	634
Continental Oil Co., Driver 12	*	4575
Cooper & Hill, Hankins 1	*	1135
J. L. McMeans et al, Eichelberger 1	*	907
Pandem Oil Corp., Burch 1	30	4335
Rhodes 1	40	4207
J. J. Perkins et al, Clark 1	*	850
Perkins-Cullum et al, Lemmond 1	45	736
Richardson & Dressor, Dean 1	10	550
Robertson Drlg. Co., Gillmore 5	*	530
Scott & Nance, Payne 1	50	1931
Tucker & Miller, Ward 1	*	660
United Royalty Co. et al, Carpenter 2	15	627

WEST TEXAS

Company, Well and Loctaion	Initial Production Bbls.	Depth
CRANE COUNTY—		
C. C. Duffey-Skelly Oil Co., University 1	250	2949
Prairie O&G Co., University 8	220	3042
Warner-Quinlan Co., University-Weekly 4	250	2988
HOWARD COUNTY—		
Amerada & Rycade, Stewart 2	30	1445
Merrick & Lamb, Clay 8	25	1912
Moody Corp., Roberts 11-B	50	2616
LOVING COUNTY—		
Lockhart & Co., Bowen-Wells 2	650	4233
PECOS COUNTY—		
Humble O&R Co., Smith 6-B	1485	1688
Mid-Kansas-Transcontinental, Yates 2-E	12,000	1245
J. D. O'Mara et al, Butz 1	40	1377
Shell Pet. Corp., Smith 4-D	785	1837
WARD COUNTY—		
Gulf Prod. Co., Wristen Bros. 1	135	2480
Shipley Oil Corp., Hayzlett 2	140	2485
WINKLER COUNTY—		
Gulf Prod. Co., Ida Hendrick 3	945	2874
Southern Crude & Westbrook, Hen-Hendrick 10-U-T-88	600	2850

EAST TEXAS

Company, Well and Loctaion	Initial Production Bbls.	Depth
ANDERSON COUNTY—		
Humble, Derden 1-A	*	465
S. N. Price, No. 1	*	260

EAST CENTRAL TEXAS

Company, Well and Loctaion	Initial Production Bbls.	Depth
FALLS COUNTY—		
Carruth & Stewart, Flowers 2, Manchaca sur	*	1170

SOUTHWEST TEXAS

Company, Well and Loctaion	Initial Production Bbls.	Depth
SALT FLAT—		
Humble, Floyd Gray 5-A	500	2672
Floyd Gray 6-A	250	2683
Floyd Gray 7-A	600	2673
M. B. Johnson 4-A	200	2687
M. B. Johnson 5-A	300	2686
M. B. Johnson 4-B	250	2686
Moses & Baggett 11-B	125	2682
T. A. Tiller 6	500	2667
BROOKS COUNTY—		
W. G. French, Riley 5, San Antonio sur	*	1300
DUVAL COUNTY—		
Magnolia, Hahl 4, Govt. Wells Pool	50	2341
Hahl 5, Govt. Wells Pool	900	2327
Sun, F. Lopez 1, Kohler Ranch	*	3010
KARNES COUNTY—		
Adams & Hale, Ruckman 1, R. Musquiz sur	*	2588
Dr. Hewitt, Porter 1, Victor Blanco sur	*	2249
LA SALLE COUNTY—		
Burkett-Woods-Warnker, Moller 1, sur 20	*	1320
NUECES COUNTY—		
R. & G. Corp., Allen 2, Ross Peters Subd 2	¶50	1994
WEBB COUNTY—		
O. W. Killam, Billings 6, Sur 6	*	2508
ZAPATA COUNTY—		
Muckelroy, Trevino 2, Sur 66	*	1308

TEXAS GULF COAST

Company, Well and Loctaion	Initial Production Bbls.	Depth
BATSON—		
Gulf, Wing 172	15	490
BLUE RIDGE—		
Sinclair O&G Co., Davison 3, dd	*	4630
Navarro Oil Co., Robinson C-1	1000	4280
BOLING—		
Union Sulphur Co., D. Hill 5	*	813
BRENHAM—		
Lee Dekle, Pomocal 3	10	201
HULL—		
Gulf, Phoenix Dev. Co., 39, dd	20	2220
Republic Prod. Co., Dolbear 68, dd	1500	2590
HUMBLE—		
The Texas Co., Landslide 263	¶10	4985
Stevenson Fee 40	285	5224
Humble, Williams 2	1000	3774
PIERCE JUNCTION—		
Navarro Oil Co., Dooley 16	500	4650
ORANGE—		
Brownie Babbette Oil Co., McLean 2 dd	25	3360
RACCOON BEND—		
Humble, Valley, E. M. Bracey 1-A, wo	50	3380
Keachele 1	*	1120
A. Mueller 2	465	3381
Stravoski 2	*	4100
REFUGIO—		
Mission Drlg. Co., Shay 1	200	3664
Houston Gulf Gas Co., Lambert 9	¶75	3577
Buckley 1	*	2680
Houston Oil Co., Rooke 12	250	3695
Wilson Heard 6	*	3700
F. Rooke 1	¶50	3689
SPINDLE TOP—		
Yount-Lee Oil Co., Gladys City 4	180	4123
McFaddin 14, wo	225	5118
McFaddin 107	*	4597
McFaddin 108	1200	3706
SUGARLAND—		
Humble, Hammer Fee 5	900	3597
MOSS BLUFF—		
Humble, Sterling 5	*	4692

SOUTH LOUISIANA

Company, Well and Loctaion	Initial Production Bbls.	Depth
ANSE LA BUTTE—		
Yount-Lee Oil Co., La. Pet. Co. 5	1000	3674
LOCKPORT—		
Vacuum-Gulf, Miller 9, dd	800	4375
SULPHUR—		
Union Sulphur Co., Fee 748	2000	4056
THIBODAUX—		
Gulf, Stark 18	*	1291
VINTON—		
Marrs McLean, Gray 4, dd	*	1170

NEW MEXICO

Company, Well and Loctaion	Initial Production Bbls.	Depth
LEA COUNTY—		
Continental Oil Co. & California Co., Flint 1	*	3840
Empire Gas & Fuel Co., Martin 1	*	3825
Mid-West Ref. Co., W. S. Capps 1	700	4220
C. E. Reynolds Drlg. Co., Merchant 1	†	690

Magnolia to Erect Two 80,000-barrel Tanks

Dallas, Texas.—Magnolia Pipe Line Company has placed orders for the immediate erection of an 80,000-barrel steel tank at its Purcell station tank farm, Oklahoma, and also one for its Luling, Texas, tank farm because of congestion of crude at these two points. The Kirk-Morrow Iron Works Company will furnish the steel and erect the tanks, and an insulated roof of the Philip Carey Company will be used on the Luling tank.

American Hammered Piston Rings

Individually cast, mechanically hammered to give lasting tension, particularly designed and adapted for Oil Field and other severe service.

Endorsed and used as Factory Equipment by

Ajax Iron Works - - - - - - - - Corry, Pa.
Bruce-Macbeth Eng. Co. - - - Cleveland, Ohio.
Bovaird & Seyfang Mfg. Co. - - Bradford, Pa.
Brandford Supply Co. - - - - - Bradford, Pa.
Cooper-Bessemer Corp. - Mount Vernon, Ohio
Chicago Pneumatic Tool Co. - New York, N. Y.
De La Vergne Machine Co. - Philadelphia, Pa.
Franklin Valveless Eng. Co. - - Franklin, Pa.
Ingersoll-Rand Co. - - - - New York, N. Y.
McIntosh & Seymour Corp. - - Auburn, N. Y.
Munice Oil Engine Co. - - - - - Munice, Ind.
National Supply Co. - - - - Toledo, Ohio
Pennsylvania Pump & Compressor Co. Easton, Pa.
Power Mfg. Co. - - - - - - - Marion, Ohio
Jos. Reid Gas Eng. Co. - - - - Oil City, Pa.
Sullivan Machinery Co. - - Michigan City, Ind.
Titusville Iron Works - - - - Titusville, Pa.
Wilson Snyder Mfg. Co. - - - Pittsburgh, Pa.
Worthington Pump & Mach. Corp., New York, N. Y.

May be obtained from the above companies, or their selling agents, in standard sizes or oversizes.

Rings for any engine or compressor not listed above can be obtained direct from us.

The American Hammered Piston Ring Co. Baltimore, Md.

PERMITS GRANTED FOR NEW WELLS

WEEKLY COMPARISON OF NEW WELLS

Following is a condensed table giving a comparison of permits or locations made for new wells during the past year in Kansas, Oklahoma, Arkansas, Louisiana, Texas, California and the Mountain States:

State—	Week ending Aug. 10	Previous Week	Total this Month	Total this Year	This Week 1928	This Month 1928	1928 Year Total
Arkansas	2	7	9	95	..	..	331
California	10	22	32	813	27	42	1,207
Louisiana	20	15	35	525	17	24	680
Kansas	27	33	60	682	18	42	1,032
Oklahoma	100	75	175	2,109	66	154	3,744
Texas	188	204	392	5,364	164	292	8,297
Total	347	356	703	9,588	292	554	15,291

CALIFORNIA

BELRIDGE—The Ohio Oil Co., No. 29, 30-28-21.

ELWOOD—Bankline Oil Co., No. 1, 15-4-29.

KERN COUNTY—Shell Oil Co., Core Hole "G", 1-29-26.

KERN RIVER—Bishop Corp., No. 7, 23-28-27.

LONG BEACH—A. T. Jergins Syn., No. 8, 24-4-13.

MT. POSO—Pacific Western Oil Co., King 3, 22-27-28. Signal O. & G. Co., No. 7, 22-27-28.

RICHFIELD—Arrowhead Oil Co., Zuckerman 1, 33-3-9.

SANTA FE SPRINGS—Richfield Oil Co., Wardman 2, 6-3-11. Standard Oil Co., South Whittier Community 29, 5-3-11.

OKLAHOMA

CARTER COUNTY—E. M. Boring et al, Walker 6, se sw se nw, 10-4s-2w. Simpson and Fell, Walker 6, se sw nw, 10-4s-2w. J. A. Porter et al, Roberson 1, se nw, 23-3s-4w. The Prairie and Wirt Franklin, Pruitt 14, sw nw nw, 3-2s-3w. Magnolia, Tivas 2, sw nw, 20-1s-3w. F. W. Merrick et al, Denny 3, nw sw, 20-1s-3w.

COTTON COUNTY—Oakes et al, Mullins 1, se nw, 28-2s-10w. Shasta, Slogan 1, nw sw nw ne, 2-2s-10w. Perkins and Cullum, Smith 4, se, 34-1s-10w.

CREEK COUNTY—Prairie et al, Elmore 1, sw nw nw, 10-19-7e. Carter, Durant 10, (twin) ne,, 18-16-9e. Texas Pacific, Beaver 9, (twin) nw sw nw, 17-16-9e. American, Tiger 1, se ne, 26-17-10e. Pioneer, Jones 1, se sw ne, 18-17-10e. J. W. Merritt et al, Brown 1, ne sw ne, 27-18-8e. H. U. Bartlett, Jackson 1, se sw sw, 23-18-8e. Gled, Gates 2, sw nw se, 31-19-9e. Phillips, Houston 2, nw ne ne, 20-19-9e. Texas, Jackson "B" 1, se sw nw, 25-19-9e. Foster Hinton 2, sw se nw, 25-19-8e.

GRADY COUNTY—Oklahoma Natural Gas, McCaughtry 12, sw ne ne, 23-5n-8w.

HUGHES COUNTY—Magnolia, Dimmet 1, ne sw sw, 8-6-8e.

KAY COUNTY—Lew Wentz, Harris 2, se nw, 31-27-2e, (owdd). Marylene Oil Co., School 3, (owdd) nw se nw, 16-27-1w. Lew Wentz, Mooney 17, se nw, 17-28-1e (owdd). DeCamp and Lancer, Covey 1, se ne, 24-28-1w.

KIOWA COUNTY—Engle et al, Kelsey 1, (owdd) nw sw, 20-7n-17w.

LINCOLN COUNTY—R. W. Willis et al, Shannon-Sasser 1, c ne sw, 20-17-3e.

MARSHALL COUNTY—Bilbo Oil Trust, Davis 2, nw se nw nw, 30-5s-6e.

MUSKOGEE COUNTY—M. S. Mussellem, Brook 5, se sw ne, 4-13-19e.

OKFUSKEE COUNTY—F. A. Havel et al, Grayson 1, sw se, 23-11-11e. Champlin, Holmes 14, ne, 22-11-11e. Champlin, Jacobs 13, se, 15-11-11e. Superior, Robinson 1, ne se, 10-12-11e. Henry, Allen 1, nw, 35-12-9e.

OKMULGEE COUNTY—Prairie, Palmer 2, c nw sw, 29-13-12e.

OKLAHOMA COUNTY—Indian Territory Illuminating et al, Anderson 1, se ne, 25-11-3w; Emerson 2, nw sw, 30-11-2w; Canfield 1, se sw, 19-11-2w; Canfield-Button 1, se ne sw, 19-11-2w; Farley-Fuzzell 1, se nw, 19-11-2w; Watters 2, nw ne, 25-11-3w; Kingman 1, se sw, 24-11-3w; Henning 2, sw se, 24-11-3w; Ryan Consolidated 1, ne nw, 3-11-2w. The Prairie & T. B. Slick, Hiddleston 4, sw nw se, 19-11-2w. Coline, Warren 2, nw sw, 18-11-2w. Mid Kansas et al, Fortson 5, se sw ne, 24-11-3w. Coline, Olds 5, nw ne nw, 24-11-3w. Mid Kansas et al, Mollman 1, se, 23-11-3w.

OSAGE COUNTY—Peters & Producers & Refiners 3, sw se sw, 22-27-11e.

PAWNEE COUNTY—Houston Oil, Harbisch 1, ne, 25-20-6e.

PAYNE COUNTY—Mulberry, Sharro n6, sw nw nw, 5-17-4e.

POTTAWATOMIE COUNTY—T. B. Slick, Alexander 2, se nw se, 19-6-4e. Gypsy, Gassland 2, sw nw sw, 9-8-5e. T. B. Slick, Ready 1, ne, 24-6-3e. Shell, Jordan 2, nw sw nw, 9-8-5e. Indian Territory Illuminating, Shelby 4, sw se, 35-8-4e; Shelby 3, se sw se, 35-8-4e. Amerada, Smith 1, se ne ne, 8-8-5e. Indian Territory Illuminating, Weldfelt 1, ne nw, 2-7-4e. Sinclair et al, Kelly 2, "A" nw ne, 2-7-4e. McMann and White Eagle, Roberts 1, nw ne sw, 9-8-5e. Sinclair, Smith 1, sw nw nw, 9-8-5e. Commerce Development Co., Townlot 1, nw se nw, 8-9-5e.

SEMINOLE COUNTY—Highway Refining, Bryan 1, ne se sw, 9-6-8e. Gypsy, Brummer 1, sw nw se, 9-6-8e. Mid Continent, Smith 9, nw se, 5-7-7e. Texas, Lewis 1, (owdd) nw se se, 13-5-7e. Independent, Thloco 1, nw ne sw, 9-7-7e. Texas, Mayhue 4, ne nw, 14-9-6e. Superior 1, ne nw nw, 9-7-7e. Gypsy, Willie 1, sw nw ne, 24-7-6e. Empire, Coker 4, (twin) sw se sw, 13-7-6e. Pure, Cotcha 13, (twin) ne se ne, 23-7-6e. Carter, Rogers 2, nw sw se, 2-8-5e. Carter et al, Hully 1, ne sw, 15-10-6e.

STEPHENS COUNTY—Magnolia, Martin 1, sw, 21-2s-4w. Pace et al, McMasters 9, se ne se ne, 13-2s-8w. Magnolia, Peck 8, nw sw se ne, 13-2s-8w. Pearce and Brown, Harley 1, nw, 30-2s-6w. Winkler and McQueen, Springer 7, nw ne sw nw, 28-1s-8w. Ven Mex Mid Continent, Nigh 7, c ne nw, 34-1s-8w. Magnolia, Kagay 2, (owdd) nw sw nw sw, 34-1s-8w. American Pipe Line, Nigh 8, sw se nw, 34-1s-8w. Denver and Wichita Falls Pipe Line, Allen 1, ne se, 35-1n-9w.

TULSA COUNTY—C. R. Fortner, Kell 1A, ne sw se, 11-18-12e. Glidden 1, ne se ne, 4-19-10.

WAGONER COUNTY—J. L. Dixon, Brown 2, sw nw, 36-16-17e. Cherokee Public Service, Marshall 2, ne se, 35-16-17e.

KANSAS

BUTLER COUNTY—Empire, Koogler 85, sw se nw, 20-26-5e; Hutson 17, nw se sw, 19-26-5e; Koogler 86, sw nw ne, 20-26-5e; Koogler 87, ne nw nw, 20-26-5e; Gressman 16, nw sw ne, 20-26-5e.

CHASE COUNTY—Sinclair, Owens 1, se, 13-21-9e.

COWLEY COUNTY—McKnabb and Bess Drlg. et al, Aein 1, sw ne nw, 19-32-5e. Roth and Faurot, Stone 1, sw ne, 34-32-4e.

ELK COUNTY—Sherman et al, McSpadden 1, nw ne, 4-31-10e.

GREENWOOD COUNTY—Elk River, Peterson 1, nw, 20-27-11e. Mid-Continent, Sullivan 14, cwl ne nw, 14-24-12e. Walton, Dalton 1, ne se nw, 5-24-13e. Empire, Norton "B" 2, se sw se, 15-22-12e.

LYON COUNTY—Phillips et al, McClay 1, se ne sw, 27-21-10e.

MARION COUNTY—Empire, Reizwig 1, ne nw nw, 34-20-2e. James Davis, Bartles 1, se ne, 1-19-1e.

WOODSON COUNTY—Sullivan and Milrose, Pegram 1, sw nw, 33-23-14e.

BARBER COUNTY—Barbara Oil Company, Carter 3, ne sw se se, 2-33-13w.

ELLIS COUNTY—Mid-Kansas O. & G., Johnson 1, sw se ne, 9-13-19e.

McPHERSON COUNTY—Empire, Voshell 1, ne se ne, 9-21-3w.

PRATT COUNTY—O'Haver, Jones et al, Gereke 1, c ne sw, 7-26-14w.

RENO COUNTY—D. J. Wilson et al, McPeters 1, c sw nw, 22-26-8w. Witt et al, Olson 1, se nw, 14-22-6w.

SALINE COUNTY—Dixie, Olson 1, nw ne, 10-16-3w.

SEDGWICK COUNTY—Wentz, Bright 4, sw se nw, 1-26-1w. Wentz, Miers 1, se sw, 10-26-2e.

SUMNER COUNTY—Bu Vi Bar et al, Wilson, ne nw, 27-34-2w.

ARKANSAS

CALHOUN COUNTY—Phillips Pet. Co., El Dorado, Ark., F. Smith 1, nec sw sw, Sec. 25-16-13.

UNION COUNTY—Wilson & Chapman, El Dorado, Ark., W. R. Bradley 1, swc sw nw, Sec. 2-16-16.

TEXAS

ARCHER COUNTY—Texas Co. and Robert Oil Corp., Breckenridge, T. L. Blewett, 240, 1, S 2, S.P. Ry. sur, 1350 ft from w and 2350 ft from n line. Texas Co., Wichita Falls, J. S. Walsh, 40, 1, 2416, T.E.&L. sur, 150 ft from n and 750 ft from w line of sec. Moran Company, Wichita Falls, J. M. Bloodworth, 150, 4A, M. Cartwright sur, 1050 ft from n and e lines. Roy I. Carter, Wichita Falls, J. T. Richardson, 80, 1, B 11, T. McCoy sur, 150 ft from n and e lines of s½ Blk. 11. L. T. Burns, Wichita Falls, L. W. McCrory, 200, 1 "O," B 14, Amer. Trib. sur, 660 ft from w and 150 ft from s line. P. F. Gwynn, Wichita Falls, A. D. Thompson, 40, B 20, Amer. Trib. sur, 300 ft e of No. 14. Jno. F. Merrick, Wichita Falls, A. Fischer 2, 1, B 70, Holliday sur, 150 ft from s and w lines. Underwood Drilling Co., Wichita Falls, M. P. Andrews, 160, 6, 1805, T.E.&L. sur, 1700 ft from w and 450 ft from s line. F. P. Cullum, Wichita Falls, W. T. Knight, 200, 1, J. Pointevent sur, 150 ft from e and 850 ft from s line. Staley, Wynne & Co., Wichita Falls, Turbeville, 40, 5, S 146, R. Carson sur, 300 ft s of No. 4.

AUSTIN COUNTY—Humble, Houston, J. C. Beal 2, W. C. White sur, 300 ft from nw and 450 ft from ne line; R. G. Paine 3, W. C. White sur, 150 ft se of center of nw line.

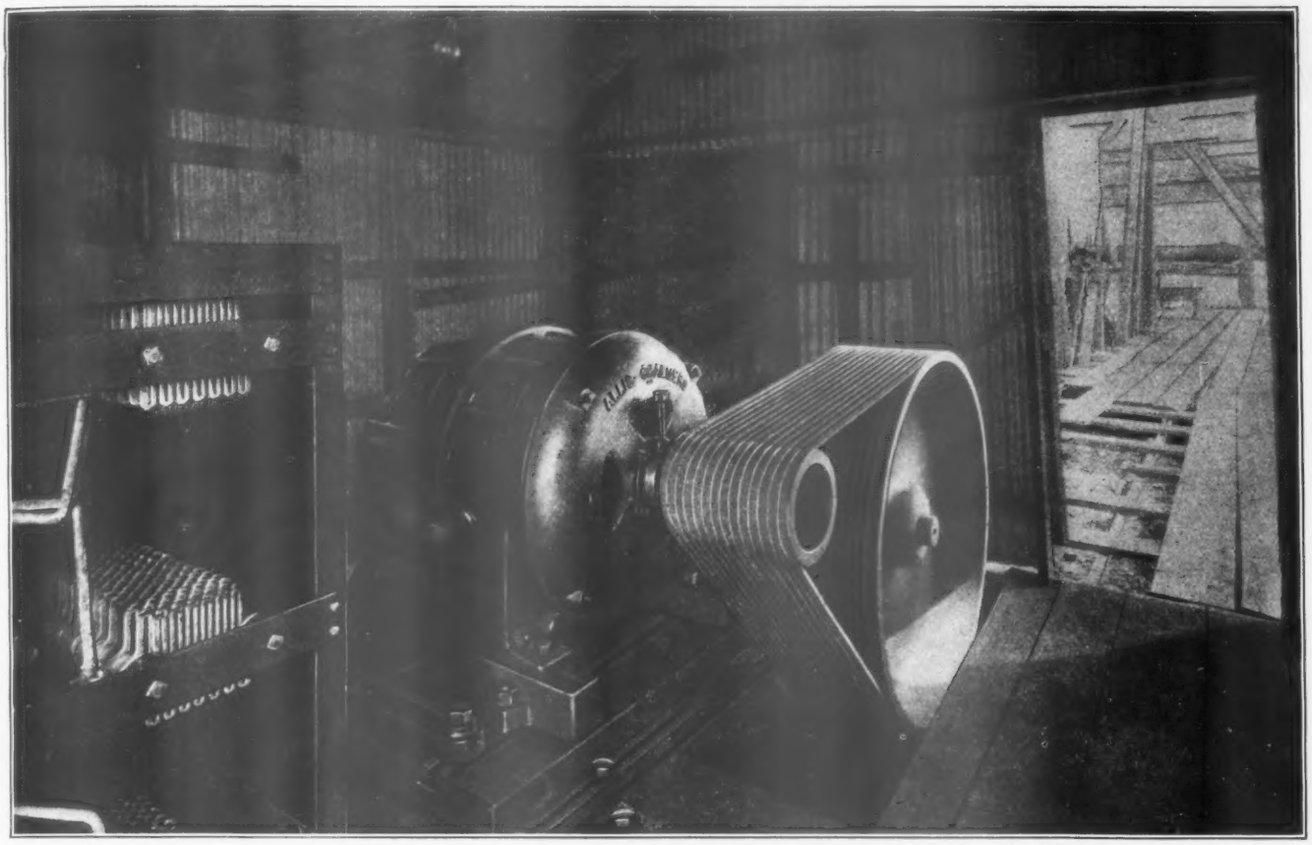
BROWN COUNTY—Hartt Petroleum Company, Dallas, J. Allgood, 80, 1, S 58, J. D. Kirkpatrick sur, 150 ft from s and e lines; G. W. McMan, 107, 1, S 17, J. Duckworth sur, 150 ft from e and 300 ft from s line; F. E. Scott, 37, 1, S 100, J. Douglas sur, 150 ft from n and w lines. E. W. McCrary, Tulsa, Okla., J. R. Stewart, 14, 8, M. L. McAuley sur, 150 ft from s and e lines. Greene Prod. Co., Inc., Fort Worth, M. A. Davis, 40, 4, S 4, S.A.&M.G. sur, 150 ft from n and e lines; 5, 300 ft w of No. 4. E. L. Smith Oil Co., Inc., Mexia, L. A. George, 100, 2, S 42, H.T.&B. sur, 300 ft w of No. 1. Humble, Wichita Falls, E. P. Kilgore, 37, 1, S 153, N. B. Mitchell sur, 630 ft from n and 200 ft from e line; R. Hickman, 80, 3, F. M. Kinsey sur, 150 ft from n and 500 ft from w line; N. E. Munselle, 40, 2, W. Ahrenbeck sur, 150 ft from n and e lines. Bishop & Moore, Brownwood, J. O. Swindle, 12, 1, S 20, H.T.&B. sur, se corner. G. A. Buder, St. Louis, Mo., F. L. Cross, 12, 6, J. Kinney sur, 256 ft w of No. 1. W. G. Sawyer, Brownwood, F. W. Turner, 40, 1, M. Duncan sur, 250 ft from n and e lines.

BASTROP COUNTY—Pacific O. & G. Co., Austin, Donnell-Bickley, 160, 1, L. Leverance sur, 150 ft from w and 30 ft from n line.

BORDEN COUNTY—W. A. Moncrief, Fort Worth, S. I. Munger, 560, 1, S 15, B 31, T.&P. Ry. sur, 660 ft from s and w lines of ne¼.

CALLAHAN COUNTY—M. E. Wakefield et

XUM



Allis-Chalmers Oil Well Motor, Control and Single Reduction Unit Operating Pumping Rig in Forsan Field, Howard County, Texas.

Less Chance for Trouble *with these* Texrope Driven Units

ALLIS-CHALMERS single reduction units are not a solution to all of an oil well operator's troubles but they do cut them down a great deal. A short center, nonslipping Texrope Drive takes the place of the long troublesome belt drive from the motor to the countershaft. The Timken equipped countershaft is built strong enough to withstand the shocks of pumping or drilling. Universal slide rails provide easy adjustment of motor on the base and cross-rails permit a take-up of 48″ in the band wheel belt. These features are combined to form a unit that is strong and yet is light enough to be readily moved from one well to another. There is little to get out of adjustment and little to cause trouble with these Texrope units. Over 200 are in use — pumping and drilling.

These reduction units can be supplied complete with Allis-Chalmers oil well motors. Electric steel frames and spiders give these motors great strength with a minimum amount of weight. Compactness in design permits shorter and more rigid shafts. These motors, designed especially for drilling wells and pumping oil, are built with a reserve strength that is assurance against breakdown.

Write your nearest oil field office for detailed information on Allis-Chalmers oil field equipment. Stocks carried at Tulsa, Houston, Sweetwater, and Los Angeles.

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ALLIS-CHALMERS MOTORS *and* TEXROPE DRIVES

Products for the Oil Industry

Single and Double Reduction Units
Texrope Drives
Motors and Control
Drilling-Pumping-Pipeline
Transformers
Centrifugal Pumps
Pipe Line Pumps
Tractors

OIL FIELD OFFICES

DALLAS
HOUSTON
TULSA
NEW ORLEANS
KANSAS CITY
DENVER
LOS ANGELES
SAN FRANCISCO

WESTERN SUPPLY CO., Tulsa

al, Cross Plains, Robbins, 125, 1, R. Edwards sur, 40 ft from e and 1000 ft from s line. Moutray Oil Co., Abilene, E. L. Finley, 40, 1, S 72, Bayland Asy. sur, 150 ft from n and e line ne¼ ne¼. Guyle Greynolds, Cisco, J. L. Hart, 80, 1, S 6, L.A.L. sur, 450 ft from n and e lines. R. O. & B. K. Eubanks, Cross Plains, R. O. Eubank, 80, 5, B 48, C.C.S.L. sur, 450 ft from w and 409 ft from s line. Ellis & Dumas, Abilene, T. Windham, 80, 1, S 162, G.H.&H. sur, 150 ft from s and e lines of s½ of nw¼. Texas Company, Wichita Falls, E. L. Finley, 40, 1, S 75, Bayland Asy. sur, 150 ft from s and w lines ne¼ ne¼. C. O. Moore Oil Corp., St. Louis, Mo., A. Rudloff, 80, 14, B 53, C.C.S.L. sur, 450 ft from a and 650 ft from w line; 13, 750 ft from n and 950 ft from w line; T. W. Franke, 60, 14, B 55, C.C.S.L. sur, 450 ft from n and 1050 ft from w line.

COLEMAN COUNTY—Rex Tex Oil Co., & Py Tex Oil Co., Winchester, Ky., L. L. Baker, 10, 2, S 630, B 7, M. A. Fisk sur, 300 ft e of No. 1. C. S. Willmott, San Saba, J. L. Vaughn, 150, 2, No. 79, B&S sur, 650 ft from s and 820 ft from w line sw¼. Amerada Pet. Corp., Fort Worth, J. W. Harris, 106, S 8, J. Saunders sur, 280 ft e of No. 90. Tower & McKanna, Inc., Wichita Falls, J. J. Crowder, 40, 2, J. Wood sur, 349 ft e of No. 3; 3, 349 ft w of No. 4; 4, 350 ft e of No. 5; 5, 150 ft from n and w lines. Midwest Exploration Co., Cross Plains, I. Keeney, 4, No. 270, E. N. Eubanks sur, 200 ft from s and w lines. Galt-Brown Co., Tulsa, Okla., S. C. Stewardson, 1000, 1, No. 234, R. Wilson sur, 3300 ft from s and e lines of sur. Herbert Oil Co., Fort Worth, A. Bennett, 40, 2, B 25, L. Johnson sur, No. 480, 450 ft from n and 150 ft from e line, B 25. S. B. Owens, Inc., Brownwood, H. E. Breneke, 164, 1, S 100, E. T. Ry. sur, 150 ft from s and w lines nw¼. White Eagle O. & R. Co., Abilene, J. P. Morris, 107, 4, No. 722, Wm. Webber sur, 250 ft from e and 150 ft from s line.

COOKE COUNTY—Coline Oil Co., Oklahoma City, Huggins, 54, 1, S.P. Ry. sur, 150 ft from n and e lines. Kewanee O. & G. Co., Tulsa, Okla., Lanier, B 104, 8, E.T. Ry. sur, 1980 ft from n and 450 ft from w line. American Refg. Properties, Wichita Falls, F. J. Hess, 10, 1, H. N. Burditt sur, 150 ft from n and e lines. Fain-McGaha Oil Corp., Wichita Falls, J. F. Huggins, 100, 2, S.P. Ry. sur, 150 ft from s and 450 ft from e line. Danciger O. & R. Co., Fort Worth, J. F. Huggins, 76, 4, B 9, S.P. Ry. sur, 30 ft w of No. 3. Rathke Oil Co., Wichita Falls, J. B. Bean, 81, 1, J. T. Davidson sur, 150 ft from n and e lines.

COLORADO COUNTY—Coyle-Concord Oil Co., San Antonio, Root, 80, 1, S 42, I.&G.N. sur, 356 ft from n and 1015 ft from w line s½ se¼.

CALDWELL COUNTY—J. W. Allen, Austin, A. B. Jackson, 20, 1, S. Morris sur, 150 ft from n and w lines. Humble, Houston, T. A. Tiller, 40, 7, J. Hinds sur, 150 ft from s and 450 ft from e line; Moses-Baggett, B 85, 13, J. Hinds sur, 450 ft from e and 1189 ft from s line; C. F. Dye, 40, 7, J. Hinds sur, 150 ft from n and 450 ft from e line; F. Gray, A, 83, 8, J. Hinds sur, 494 ft from n and 470 ft from w line; F. Gray B, 28, 4, J. Hinds sur, 150 ft from n and e lines; F. Gray C, 48, 6, J. Hinds sur, 150 ft from s and w lines; 7, 571 ft from n and 450 ft from w line.

CARSON COUNTY—Champlin Refg. Co., Wichita Falls, McConnell, 80, 4, S 67, B 4, I.&G.N. sur, 990 ft from n and 330 ft from w line nw¼. Skelly Oil Co., Tulsa, Okla., H. Schafer, 160, 20, S 198, B 4, I.&G.N. sur, 990 ft from e and 330 ft from s line ne¼; 19, 330 ft from s and 1650 ft from e line of ne¼.

CHAMBERS COUNTY—Sun Oil Co., Beaumont, McKinney, 7, 2, Wm. Hodge sur, 450 ft from n and 50 ft from w line; Wilburn, 20, 1, Wm. Hodge sur, 50 ft from s and e lines. Yount-Lee Oil Co., Beaumont, Woodward 1, Wm. Hodge sur, 1536 ft from n and 1963 ft from w line of sur.

CLAY COUNTY—Saxet Oil Co., Petrolia, F. B. Wyatt, 230, 38, B 25, Lockridge sur, 570 ft from n and 960 ft from e line, B 25. Merrick & Belcher, Wichita Falls, Hanagan, 40, 1, B 6, P.C.S.L. sur, 150 ft from s and e lines.

CRANE COUNTY—Gulf, Fort Worth, W. N. Waddell, 640, 8, S 2, B B24, 330 ft from s and e lines of sec; J. T. McElroy, 640, 67, S 201, B F, C.C.S.D.&R.G.N.G. sur, 2102 ft from n and 2640 ft from s line of section 201.

DUVAL COUNTY—Sun Oil Co., Beaumont, F. Lopez, 475, 2, S 730, B.S.&F. sur, 150 ft from e and 1000 ft from s line of sec. Magnolia, Dallas, H. Hahl, 190, 7, No. 250, B 24-25, 300 ft s of No. 3.

EASTLAND COUNTY—Jack Dale, Wichita Falls, S. Lyerla, 160, 1, S 25, No. 2, S.P. Ry. sur, 450 ft from n and 150 ft from w line ne¼. TexWa Oil Co., & Simms Oil Co., Cisco, S. J. Lyerla, 330, 1, S 25, B 2, H.&T.C. sur, 400 ft from w and 1320 ft from s line. Texas Co., & Warner-Quinlan Co., Cisco, W. T. Hitson, 80, 1, S 2, S.P. Ry. sur, 675 ft from n and 646 ft from w line of sec. Hoffman & Page, Eastland, J. V. Harbin, 91, 5, S 27, B 2, H.&T.C. sur, 340 ft n of No. 4. W. G. Rochell, Mineral Wells, J. W. Clark, 40, 1, S 29, B 2, H.&T.C. sur, 150 ft from s and e lines.

FOARD COUNTY—A. W. Phillips, Fort Worth, R. F. Allen, 40, 1, S 327, B A, H.&T.C. sur, center of sw¼ of se¼.

GRAY COUNTY—Guernsey Oil & Gas Co., Pampa, D. Pope, 160, 1, S 173, B 3, I.&G.N. sur, 990 ft from w and 330 ft from s line sec. C. M. Lyon, Pampa, Morse, 80, 1, S 2, B 26, H.&G.N. sur, 330 ft from s and w lines of n½ of ne¼. Texas Co., Wichita Falls, Coombs-Worley, 80, 5, S 36, B 3, I.&G.N. sur, 830 ft from e and 330 ft from s line. Operator's Oil Co., Tulsa, Cook, 90, 1, S 30, B B2, H.&G.N. sur, sw corner; 2, north of No. 1; 3, se se corner; 4, north of No. 3; 5, north of No. 2; 6, nw corner.

GRAYSON COUNTY—E. M. Rogers, Fort Worth, S. S. Taylor, 501, 1, T. B. Allen sur, 1232 Vs from w and 451 Vs from s line.

GALVESTON COUNTY—Gulf, Fort Worth, G. E. Smith, A, 90, 4, M. Dunman sur, 1750 ft from nw and 600 ft from sw line.

GUADALUPE COUNTY — Penn Oil Co., Dallas, J. L. Manford, 88, 1, J. Hodges sur, 150 ft from e and 315 ft from s line.

GARZA COUNTY — W. J. Thomson et al, Colorado, F. Tuffing, 160, 1, S 10, B 6, H.& G.N. sur, 2310 ft from w and 330 ft from s line of sw¼.

HOWARD COUNTY—Merrick & Lamb, Big Spring, H. R. Clay, 80, 9, S 126, B 29, W.& N.W. sur, 680 ft from s and 480 ft from e line. Moody Corp., Tulsa, D. Roberts, B, 160, 22, S 137, B 29, W.&N.W. sur, 330 ft from s and 1040 ft from e line nw¼. Gulf Prod. Co., Fort Worth, H. R. Clay, 320, 7, S 155, B 29, W.& N.W. sur, 660 ft w of No. 4.

HARRIS COUNTY — Cezeaux & Martin, Humble, Hirsch,7, A2, J. B. Jones sur, 200 ft from n and 80 ft from w line. Roleyat Prod. Co., Houston, Burleigh, 1, B 10, G. H. Herman sur. Lee & Scott, Inc., Houston, F. H. Scott, 2½, 3, Wm. Scott sur, 165 ft n of No. 2.

HUTCHINSON COUNTY — J. E. Crosbie, Inc., Tulsa, H. W. Pitts, 3, B M21, S 9, T.C. Ry. sur, se corner of section. Continental Oil Co., Wichita Falls, Johnson, 160, D1, S 6, B Y, B.&B. sur, 30 ft from n and e lines.

HILL COUNTY — J. M. Burnham, Fort Worth, M. Halderman, 10, 1, S. Sullivan sur, 150 ft from s and e lines.

HASKELL COUNTY—Moody Corp., Tulsa, Reynolds, 96, 7, No. 1, A. Rodriguez sur, 2120 ft from n and 750 ft from e line of sur.

HARDIN COUNTY — Paraffine Oil Co., Beaumont, Fee 71, 50 ft from n and w lines.

IRION COUNTY—Banner Oil Co., Mertzon, J. M. Nutt, 80, 1, B 5, G.C.S.L. sur, 700 ft from e and 150 ft from n line of B 5.

JACK COUNTY—A. Minnich, Archer City, C. C. Bloodworth, 60, 6D, C. Evans sur, 1683 ft from n and 150 ft from e line of sur. Seaboard O. & G. Co., Wichita Falls, A. E. Enlow, 5, 1, I. Hughson sur, 150 ft from n and 225 ft from w line.

JEFFERSON COUNTY—Frank H. Sheffield, Brownwood, T. C. Rowe, 1, 3, east of No. 2. Raisidale Oil Corp., Port Arthur, Walker, 100 1, D. Easley sur, 200 ft from s and e lines. Yount-Lee Oil Co., Beaumont, McFadden, 111, P. Humphreys sur, 707 ft from w and 1138 ft from n line; 112, 2325 ft from w and 1065 ft from n line.

JASPER COUNTY — Mark Kleedon, Beaumont, R. B. Boykin, 300, 6, M. Raquite sur, 306 ft e of No. 4.

LIBERTY COUNTY — Empire, Daisetta, O'Brien, 96, 4, M. G. White sur, 525 ft from w and 69 ft from s line; 5, 1041 ft from w and 68 ft from s line.

MILAM COUNTY — E. L. Chapman, Fort Worth, W. T. Johnson, 101, 1, D. Robinson sur, 150 ft e of center of w line. Milam O. & G. Co., Beaumont, S. T. Souther, 310, 1, L. Taylor sur, 150 ft from n and w lines.

MITCHELL COUNTY — J. E. Alexander, Lubbock, W. L. Elwood, 1, S 4, B 18, S.P. Ry. sur, 2508 ft from n and 1848 ft from e line of section.

MONTAGUE COUNTY — Roy I. Carter, Wichita Falls, E. J. Bouldin, 36, 6, C. Chacon sur, 300 ft w of No. 5.

PECOS COUNTY—Pecos Crude Oil Purchasing Co., San Angelo, Pecos Valley Oil Co., 160, 3, S 22, B 10, H.&G.N. sur, 660 ft from nw and 1320 ft from ne line of w¼. Landreth Prod. Co., Fort Worth, University, 80, A-1, S 13, B 18, Univ. Lands sur, 1046 ft from w and 538 ft from s line sec. Marland Prod. Co., Fort Worth, University 1, S 10, B 17, Univ. Lands sur, 340 ft from n and e line se¼ of ne¼. Shell Oil Co., Wichita Falls, Bower, C, 640, 1, S 31, B 16, S.U.L. sur, 1660 ft from n and 1050 ft from w line. Plymouth Oil Co., Texon, F. A. Perry, 640, 3, S 29, B 178, T.C. Ry. sur, 1650 ft from n and e lines.

PANOLA COUNTY—Natural Gas Prod. Co., Wichita Falls, A. Mays, 42, 1, J. Thorpe sur.

PALO PINTO COUNTY—Bullington, Lee Pendleton & Bullington, Wichita Falls, M. B. Costello, 100, 1, J. F. Smith sur, 150 ft from s and e lines.

SHACKELFORD COUNTY—Harry Schulman, Breckenridge, K. B. Green, 160, 1, 1548 T.E.&L. sur, 150 ft from w and 1750 ft from n line. Moutray Oil Co., Abilene, R. J. Moberly, 114, 1, S 49, B 11, T.&P. sur, 450 ft from s and 150 ft from w line sec. St. Mary's O. & G. Co., Moran, B. L. Owens, 60, 22, S 20, Bayland Asy. sur, 277 ft n of No. 14. Union Oil & Mining Co., Tulsa, L. C. Huskey, 320, 40, 548, T.E.&L. sur, 1950 ft from n and 160 ft from w line of sec.

THROCKMORTON COUNTY—Home Oil & Gas Co., Albany, K. F. Leschber, 240, 11, S 536, T.E.&L. sur, 1698 ft from se and 1876 ft from sw line; 12, 1698 ft from sw and se lines. Conway Bros. & Woodson Oil Co., Ranger, J. G. Overcash, 80, 4, 960, T.E.&L. usr, 167 ft from w and 467 ft from s line of sw¼. Magnolia Pet. Co., Dallas, W. H. Downing, 80, 1, 913, T.E.&L. sur, 150 ft from n and w lines of sec. N. Rosenbaum, Breckenridge, S. Walker, 80, 2, 907, T.E.&L. sur, 300 ft s of No. 1.

WICHITA COUNTY—T. F. Hunter, Wichita Falls, J. D. Cooper, 80, 1, B 3, H. Hastie sur, 150 ft from s and w lines of s½ of e½. E. H. Pigg, Vernon, E. Foster, 20, 2, S 2, H.T.&B. sur, 150 ft from n and e lines. Venmex Oil Co., Wichita Falls, J. & J. Waggoner, 20, S 2, B 9, G.C.&S.F. sur, 300 ft n of No. 6. Kimbell-Bostic, Burkburnett, Apple-Brandeberry, 40, 7, B 9, S.A.&M.G. sur, No. 1, 150 ft from n and w lines. Panhandle Refg. Co., Wichita Falls, H. S. Griffin, 640, A1, M. B. Lamar sur, 150 ft s of center of survey. J. A. Thomas, Burkburnett, Morgan, 10, 4, B 818, S. Meadows sur, east central. F. P. Rose, Wichita Falls, S. I. Munger, 80, 1, B 24, W.V. F.I.. sur, 150 ft from s and w lines of Lot 10. Golding & Cochran, Wichita Falls, T. J. Waggoner, 120, 9, B 22, H. George sur, 324 ft w of No. 5. Edward Hamilton et al, Wichita Falls, M. K. Everett, 80, 1, Wm. Anglin sur, nw corner. J. H. Cotton, Wichita Falls, B. N. Ferguson, 80, 1, B 15, D.L.&C. sur, 150 ft from n and 450 ft from e line. Petroleum Prod. Co., Wichita Falls, Kemp-Blair, 22, 1E, B 28, W.V.F.L. sur, 150 ft from s and w lines of B 28. Comac Drilling Co., Wichita Falls, M. P. Boxhop, 45, 9, L. Neatherly sur, 300 ft w of No. 8. Cunningham & Pennell, Mineral Wells, W. D. McClure, 76, 4, S 5, G.C.&S.F. sur, 440 ft s of No. 2; 4, 490 ft from n and 2250 ft from e line; 2, 150 ft from n and 1650 ft from e line; 3, 490 ft from n and 1950 ft from e line; 6, 300 ft w of No. 2. Jno. O'Neil, Wichita Falls, Rio Bravo, 77, 33, S 31, B 5, H.&T.C. sur, 90 ft from e and 1320 ft from s line.

WILBARGER COUNTY—Empire G. & F. Co., Wichita Falls, W. T. Waggoner, 160, 9A, S 32, B 4, H.&T.C. sur, 315 ft from s and 205 ft from e line ne¼ nw¼. Simpson-Fell Oil Co., Ardmore, Okla., Waggoner, A 40, 2, S 36, B 2, H.&T.C. sur, 490 ft from n and w lines. Empire, Wichita Falls, W. T. Waggoner, 160, 8A, S 32, B 4, H.&T.C. sur, 150 ft from e and 50 ft from s line nw¼. Grayback Dev. Corp., Wichita Falls, W. T. Waggoner, 11, 1, S 40, M.E.P.&P. sur, 150 ft from n and w lines. Staley, Wynne & Co., Wichita Falls, W. T.

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Rapp No. 1, Sedgewick County, Kansas. Halliburton System used. Cemented with Prestolith Velo Cement.

After five unsuccessful cementing attempts to stop bottom hole water at Waite No. 1, Oxford, Kansas, Prestolith Velo Cement was used—result, an immediate complete shut-off.

Rapp No. 1, Sedgewick County, Kansas, cemented at night by the Halliburton System using Prestolith Velo Cement.

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Why wait days for cement to harden? Use Prestolith Velo Cement which will give one-day strength of 2700 lbs., and two-day strength of 4200 lbs., when mixed with 5.6 gallons of water per sack... no admixtures or accelerators required... and can be safely drilled out in 24 hours.

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MISSOURI PORTLAND CEMENT CO.

ST. LOUIS KANSAS CITY MEMPHIS

Manufacturers of "Red Ring" Portland Cement and "Prestolith" brand of Velo Cement. Producers of sand, gravel and Bethany Falls crushed stone.

MISSOURI PORTLAND CEMENT COMPANY — RED RING BRAND

Waggoner, 80, 1, S 39, M.E.P.&P. sur, 400 ft from n and 150 ft from w line. Phillips Pet. Corp., Bartlesville, Okla., O. J. Norwood, 100, 6, S 18, B 4, H.&T.C. sur, 200 ft from w and 2514 ft from s line. Fain-McGaha Oil Corp., Wichita Falls, W. T. Waggoner, W 100, 17, S 32, B 4, H.&T.C. sur, 205 ft from n and 280 ft from w line. Waggoner Refg. Co., Electra, W. T. Waggoner, M 40, 3, S 32, B 4, H.&T.C. sur, 205 ft from s and w lines of nw¼ ne¼. Frank Wood, Wichita Falls, W. T. Waggoner, 80, 1, S 8, B 4, H.&T.C. sur, 150 ft from n and 450 ft from w line se¼ nw¼. Dixie Oil Co., Inc., Wichita Falls, W. T. Waggoner, B 80, 1, S 4, B 4, H.&T.C. sur, s½ of nw¼. Empire, Wichita Falls, W. T. Waggoner, 160, 13C, S 25, B 4, H.&T.C. sur, 1105 ft from n and 205 ft from e line nw¼; 14C, 1330 ft from n and 762 ft from w line of sec; 15C, 1205 ft from s and 251 ft from w line of nw¼. E. B. Lawson, Tulsa, W. T. Waggoner, 40, 6, S 25, B 4, H.&T.C. sur, 200 ft from n and w lines sw¼ se¼.

WHEELER COUNTY—Kosmos Carbon Co., Charleston, W. Va., C. Hicks, 40, 1, S 52, B 17, H.&G.N. sur, center of nw¼ of nw¼. Consolidated Gas Utilities Co., Oklahoma City, M. E. Ackley, 10, 4, S 4, B 27, H.&G.N. sur, center of sw¼ of sw¼ of nw¼.

WINKLER COUNTY—L. C. Harrison, W. Wristen, 406, 1, S 26, B B28, 330 ft from n and e lines of sw¼ sw¼. Gulf, Fort Worth, L. Daugherty B, 160, 2, S 22, B 26, 1325 ft from w and 330 ft from s line nw¼.

WEBB COUNTY—Foster Barnsley, Laredo, C. W. Webster, 20, 6, S 684, 150 ft from e and 510 ft from s line.

YOUNG COUNTY—Paull Oil Co., Graham, J. A. Allen, 80, 7, N. Lynch sur, 525 ft se of No. 4. Perkins & Cullum, Wichita Falls, G. R. Lemmond, 80, 2, S 1, B.B.B.&C. sur, 350 ft n of No. 1. T. G. Shaw, Fort Worth, J. H. McLoren, 80, 1, J Conner sur, 850 ft from e and 200 ft from s line. E. R. Perkins, Olney, F. Clark, 20, 1, 208, T.E.&L. sur, 150 ft from n and w lines. Panhandle Refg. Co., Wichita Falls, O. Kimball, 160, 1, W. A. Crumpton sur, 300 ft from n and w lines of nw¼. W. R. Stafford, Graham, E. F. Tammon, 40, 1, 283, T.E.&L. sur, 832 ft from n and 150 ft from w line of sur. Franklin, Coombs & Rogers, Wichita Falls, L. O. Carpenter, 30, 4, W. Sargent sur, 300 ft e of No. 3. Panhandle Refg. Co., Wichita Falls, J. L. Lemmond, 160, 1, B.B.B.&C. sur, 150 ft from n and w lines. P. K. Pitman, 80, 4, J. Elmore sur, 250 ft from w and 750 ft from s line. Massie & Richardson Oil Corp., Wichita Falls, H. O. Prideaux, 160, 1, M. Rhodes sur, 450 ft from n and 883 ft from w line of sur. A. H. Parks et al, Abilene, O. R. Carpenter, 50, 5, E. W. Sargent sur, 150 ft from s and w lines. T. G. Shaw, Fort Worth, M. B. Jernagan, 37, 1, J. Conner sur, 300 ft s of center of n line. J. D. Carpenter, Olney, W. H. Barrett, 56, 5, E. W. Sargent sur, 300 ft s of No. 4.

ZAPATA COUNTY—Blair & Acklin, Laredo, I. Trevino, 40, 1, S 66, B 1, 150 ft from n and e lines. Killam & Dugan, Laredo, E. Cuellar, 640, 5, S 277, T.C. Ry. sur, 2900 ft from e and 1350 ft from s line.

LOUISIANA

BOSSIER PARISH—Palmer Corp. of La., Shreveport, Mrs. L. A. Roscoe 1, 14-17n-12w, 660 ft s and 660 ft e of nwc ne nw.

CADDO PARISH — H. J. Bussa, Vivian, Huckaby Odell 7, 15-21n-15w, 300 ft e and 100 ft n of swc n½ ne se. Dixie Oil Co., Inc., Shreveport, Dillons Hrs. 101, 13-21n-15w, 1535 ft s and 895 ft e of nwc of Sec. R. W. Norton, Shreveport, Srepty Hill 1, (Amended Permit), 33-23n-16w, 638 ft n and 1260 ft w of sec ne. Shreveport Oil Corp., Shreveport, Sample et al 2, 32-221n-15w, Apprx. 400 ft n and 100 ft e of swc nw ne. Shreveport Oil Corp., Shreveport, Sample et al 3, 32-21n-15w, Apprx. 750 ft n and 100 ft e of swc nw ne. The Texas Co., Shreveport, Caddo Levee Board 71, 27-21n-16w, 1150 ft e and 700 ft n of sw cor of Sec.

IBERIA PARISH—Jefferson Lake Oil Co., New Orleans, Lake Peigneur 2, 58-12s-5e, Starting at ne c Sec. 58 thence s 77 deg. w for about 3450 ft, thence nw for 800 ft to stake in Lake Peigneur.

LA SALLE PARISH—Air Lift Oil Co., El Dorado, Ark., Missouri Pacific 3, 26-10n-1e, 270 ft n and 75 ft w of sec se ne.

MOREHOUSE PARISH—Southern Carbon Co., Monroe, Tensas Delta 12, 2-20n-4e, 660 ft s and 660 ft e of nw c of Sec.

OUACHITA PARISH—J. B. Bond, El Dorado, Ark., McEnery Est. 2, 19-19n-4e, 660 ft n and 660 ft w of se c of Sec.

ST. MARY PARISH—Freeport Sulphur Co., Freeport, Tex., Premier Oil & Sulphur Co. 1, 35-17s-10e, 1450 n and 980 ft w of se c of Sec.; Premier Oil & Sulphur Co. 2, 35-17s-10e, 620 ft n and 580 ft w of se c of Sec; Premier Oil & Sulphur Co. 3, 2-18s-10e, 380 ft s and 580 ft w of ne c of Sec.

RAPIDES PARISH — Ayres Bros. et al, Urania, Wicklipp et al 1, 9-5n-2e, 2790 ft n and 150 ft e of sw c of Sec.

RICHLAND PARISH — International Gas Products Co., Monroe, Ike Beck A-1, 36-16n-6e, 1650 ft s and 660 ft e of nw c of Sec.

TERREBONNE PARISH—The Texas Co., Shreveport, Lake Pelto B-2, 8-23s-18e, 2590 ft w and 2400 ft n of se c of Sec., being appx. 10,490 ft w and 1100 ft s of Point Mast in Sec. 8. The Texas Co., Shreveport, Lake Pelto B-3, 9-23s-18e, 1000 ft due east of nw c of Sec. The Texas Co., Shreveport, La. Land & Exploration Co. A-2, 13-21s-16e, 1597 ft n and 1277 ft e of sw c of Sec. The Texas Co., Shreveport, Timbalier Bay A-2, 18-23s-20e, 1800 ft w and 475 ft n of se c of Sec.

WEBSTER PARISH—Magnolia, Shreveport, N. T. Kight 1, 33-23n-9w, 330 ft s and 330 ft e of nw c se se.

B. R. Emrick, technical adviser of production and drilling for Burma Oil Company, left and J. M. "Pepe" Messone, engineer for Argentine Government Oil Fields, are shown here a long way from home. The photograph was snapped in Old Mexico, just across the Rio Grande River, recently while the pair was en route to Los Angeles from Houston with Paul T. Putnam, sales manager of the W-K-M Company. Emrick was making a round-the-world tour in the interest of his company, spending two months in the United States, and Messone was visiting American fields, studying drilling and production methods of engineering in this country.

Concern Obtains Winkler County Oil Contract

San Angelo, Texas.—Tonkawa Petroleum Corporation has obtained a new crude contract from Texon Oil & Land Company, which is controlled by Continental Oil Company, for the delivery of a maximum of 2000 barrels of Winkler County crude daily, beginning August 8 to June 1, 1930, at the field posted price. Texon Oil & Land Company is to gather and transport the crude to the purchaser's refinery at Pyote, Texas, for an additional 10 cents per barrel.

Tonkawa Petroleum Corporation recently forfeited its original crude contract with Texon Oil & Land Company that called for the delivery of a minimum of 3000 and a maximum of 5000 barrels daily, if available, for a period of two years, beginning June 1, 1928, at a flat price of 65 cents per barrel delivered at Pyote. Amarillo Producers & Refiners Corporation and Pecos Valley Refining Company, both with plants at Pyote, recently forfeited their contracts with Texon Oil & Land Company and the plants are idle.

The Pyote plant of Tonkawa Petroleum Corporation has a skimming capacity of 5000 barrels daily, and recently was equipped with a cracking unit that is being used to re-run about 500,000 barrels, of stored fuel oil owned jointly by the company and Texon Oil & Land Company. The latter concern is part owner of the cracking equipment, having shared in the cost of installation.

Missouri-Kansas Pipe Line Company's balance sheet of June 30, shows a current position of better than 5 to 1. The company's cash totals $1,077,000 and assets have increased more than $2,000,000 since December 31. The company has retired a funded indebtedness of $2,000,000, and taken up all of the preferred stock amounting to $200,000 since the first of the year.

Surplus of the company has been increased by more than $3,000,000 since the last previous semi-annual report and additional reserves of $60,000 established. The common stock of the company, which is the sole obligation, has been increased by more than $1,000,000.

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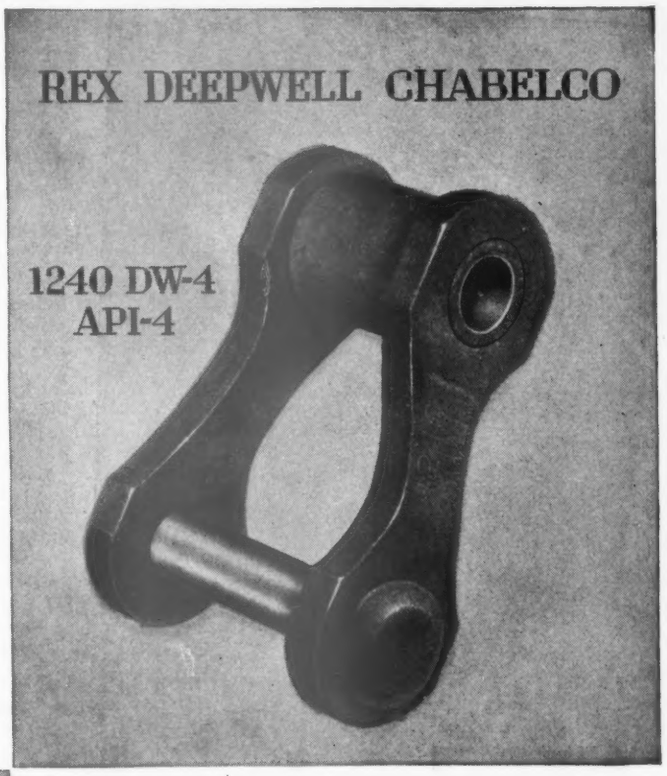

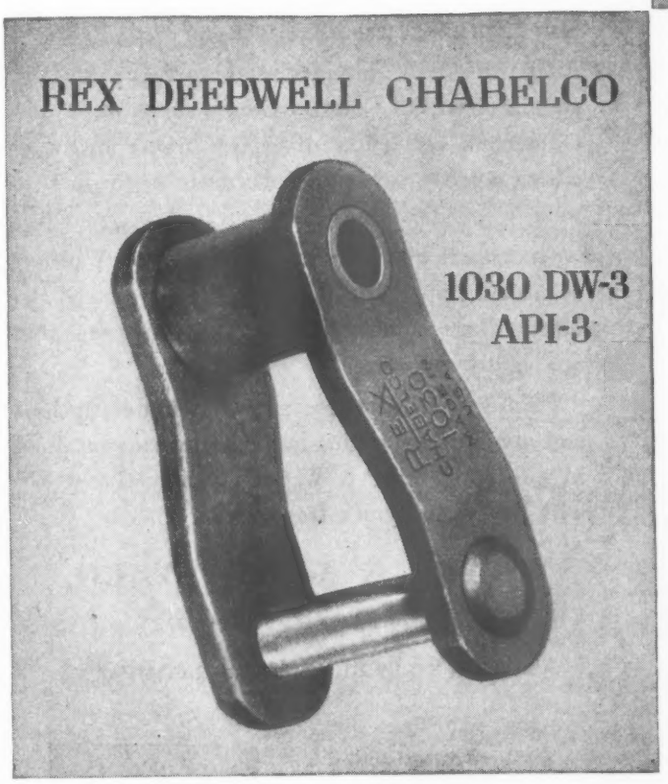

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WILDCATS FROM ALL SECTIONS

TEXAS

TEXAS GULF COAST

Company, Well and Location	Initial Production Bbls.	Depth
MONTGOMERY COUNTY—		
H. R. Cullen et al, Ernest Ralphs 1, D. Garrett sur.	*	3523
WASHINGTON COUNTY—		
Cullen & West, McDade 1, Chapel Hill	*	3650
W. D. Anderson, Rubenstein 1, 4 mi se Gay Hill	*	2300
A. W. Kollatt, J. B. Carter 1, S. F. Austin 4 Labors	*	1475

BRAZORIA COUNTY—Empire's Brock 3, Stratton Ridge, stuck drill pipe at 4900 ft. Thos. Faust et al's Fee 4, 2 mi s Nash Dome, dr 1785 ft gbo.

CHAMBERS COUNTY — Pure Oil Co.'s Mayes 3, Lost Lake, pulling on screen following gas blowout at 2152 ft; Mayes 4, Lost Lake, lcn. Layne et al's Fitzgerald 1, 1 mi s Barbers Hill, sd 2635 ft.

COLORADO COUNTY — Merrett et al's Zverck 1, 2 mi e Ellinger, sd 1000 ft. Rich Oil Corp.'s Von Rosenberg 2, 2½ mi w Alleyton, sd 2795 ft.

FAYETTE COUNTY—Kelley et al's Burke 1, 2 mi nw Flatonia, sd 500 ft. Moore et al's Kerr 1, Muldoon, sd 2485 ft. Magnolia's Gully 1, 4 mi n Fayetteville, dr 3200 ft gbo. National Oil Co.'s Hunger 1, 8 mi sw La Grange, dr 750 ft gbo. Muloon Oil Co.'s Kimper 1, Muldoon, sd 225 ft.

FORT BEND COUNTY—Humble's Miller 1, 3½ mi w Rosenberg, dr 5300 ft shale. Gulf's Trone 12, Long Point, dr 3650 ft shale. Grayburg Oil Co.'s Ransom 1, s Richmond, dr 2923 ft sand.

GOLIAD COUNTY—Humble's Miller 1, 4 mi n Goliad, dr 500 ft. Mission Drilling Co.'s Ray 3, Pettus, dr 2775 ft shale and lime.

HARRIS COUNTY — Humble's Simms-Smith 75, Goose Creek, sdtr 5243 ft; Irvin 2, Mykawa, set cas at 4189 ft; Woodburn 1, 2 mi s Genoa, dr 4285 ft shale and lime; Warren 6, Hockley, dr 1812 ft sand and shale. York & Robertson, Garrett 1, 5 mi se Fauna, sd 1600 ft. Baldwin & Neyland's Kitzman 1, 2 mi n Cypress, sd 4055 ft. Rich et al's Highland Farms 1, Elena, dk.

JEFFERSON COUNTY — Deep Test Oil Corp.'s McFaddin 1, 1¼ mi e Spindle Top, sd 3965 ft. River Oil Co.'s Ship Channel Ld. Co. 1, 2 mi se Beaumont, dr 1805 ft gbo. Gulf's Burrell 3, Fannett, dr 2500 ft rock; Junker 1, Fannett, ru. Westbury Oil Co.'s West 3, dr 2325 ft gbo and lime. Bleakie Oil Co.'s Tollivar 1, 2½ mi nw Voth, sd 2750 ft. Vacuum Oil Co.'s Broussard 1, 9 mi se Fannett, set 13 3/8 cas at 1055 ft. Shell's Heisig 1, 2 mi n Hamshire, dr 6291 ft hard shale. The Texas Co.'s Pipkin 2, Big Hill, dr 1960 ft sand; Burrell 1, Fannett, digging boiler pit.

LIBERTY COUNTY—Humble's Sterling 5, Moss Bluff, abn in salt at 4692 ft. Pure's Liberty Investment 1, Moss Bluff, dr 3475 ft gbo and shale. Gulf's Boyt 2, Hankamer, dr 3100 ft sand and shale. Fort Bend Oil Co.'s Bladerack 1, N. Dayton, sd 4625 ft. Harrison Oil Co.'s Quintette 4, N. Dayton, dr 4050 ft sand. Harvey Smith's Moore's Bluff Corp. 1, 4 mi s Stilson, dr 3225 ft sand and shale. Union Explo. Co.'s Esperson 3, 4 mi s Stilson, dr 1225 ft sand.

MATAGORDA COUNTY — Crossland et al's Hawkins 1, Shepherds Mott, sd 4850 ft.

ORANGE COUNTY — The Texas Co.'s Stark 1, Pt. Neches, dr 1165 ft; Polk 1, Pt. Neches, dk.

VICTORIA COUNTY — Humble's Welder 1, 3 mi se Nursery, dr 4090 ft sandy shale.

WALLER COUNTY — Kirby Pet. Co.'s Vaughn 1, San Felipe, pulled in dk, 3005 ft.

WASHINGTON COUNTY—Thomas et al's Giddings 1, 4 mi e Brenham, sd 305 0ft. Fuchs et al's Torn 1, 14 mi sw Brenham, dr 1100 ft shale. W. D. Anderson et al's Rubenstein 1, 4 mi se Gay Hill, abn at 2300 ft. Brains et al's L. S. Smith 1, 4½ mi ne Gay Hill, dr 1060 ft shale. Kellet et al's Carter 1, sd 1500 ft. Dekle et al's Calhoun 1, 4 mi e Quarry, dr 1060 ft shale. Cullen & West's McDade 1, Chapel Hill, abn 3650 ft. W. Gahee et al's Davis 1, sd 50 ft.

WHARTON COUNTY — Hearte Oil Co.'s Brown 1, 5 mi s El Campo, fsh 2815 ft.

SOUTHWEST TEXAS

BASTROP COUNTY—Howell et al's Weckham 1, 2 mi s Paige, fsh 1710 ft. Harper et al's Mitchell 1, Bastrop, ru. Pacific Oil Co.'s Spooner 1, 4 mi ne Cedar Creek, dr chalk 2300 ft; Donnell 1, 10 mi w Bastrop, dr chalk 2350 ft.

CALDWELL COUNTY — Radcliff et al's Joe Cardwell 1, 4 mi n Lockhart, ru. Callahan et al's Ellison 1, 8 mi n Luling, dr Taylor marl 2285 ft.

DUVAL COUNTY—The Texas Co.'s Hyatt 1, Sweeden Garden subdiv., dr 2845 ft gbo.

GONZALES COUNTY—Greene et al's Dix 1, 1 mi n Bellmont, sd 1420 ft. Fort Bend Oil Co.'s Hamm 1, 2½ mi e Harwood, dr 2675 ft sand. Hoffman et al's Barrar 1, 8 mi ne Waelder, dr 500 ft shale.

GUADALUPE COUNTY—Sinclair's Tewes

Yates Field Surface Production Has Important Proportions

SAN ANGELO, Texas.—Seepage oil production in the Yates field reached a new peak of 268,931 barrels during July, or an average of 8675 barrels daily from shallow wells averaging about 35 feet in depth, pits and trenches on leases held by the Continental Oil Company, Mid - Kansas - Transcontinental interests and the Grayburg Oil Company. The Continental Oil Company is credited with having recovered 224,917 barrels during July, or an average of 7255 barrels daily for the month. The company's 320-acre lease, located on the southeast side of the field, is the principal concentration point for this migratory oil. Total seepage oil recovery since salvage work was undertaken October 30, 1928, to the close of July, is placed at 813,962 barrels, including 526,967 barrels from the Continental Oil Company, 213,974 barrels from the Grayburg Oil Company, and 73,021 barrels from the Mid-Kansas-Transcontinenaal interests.

Migratory oil is making the Continental Oil Company's lease a productive tract, even though the regular oil and gas horizon is apparently confined to the northwest 160-acres, and is partially repaying the company for swapping a similar sized tract that has since become more prolific. Prior to the establishment of production in the Yates field, the Continental Oil Company, which was then known as the Marland Production Company, held lease on the west one-half of Section 60, and the Mid-Kansas-Transcontinental interests held the east one-half. This placed Continental Oil Company's lease into the heart of the latter interests' drilling block, and an exchange of tracts was arranged by mutual consent.

Discovery and development of the field has since proven that the Continental Oil Company got a bad break in the swapping of tracts, as its lease has eight wells credited with a combined potential production of 60,352 barrels and a daily allowance of 962 barrels, including three making water. The 320 acres that the Mid-Kansas-Transcontinental interests obtained in the exchange is now known as Yates "C" lease, and has 11 wells rated at a combined daily potential of 492,628 barrels, with a daily production allowance of 8980 barrels during the first 15 days in August. Yates 8-C gauged 5243.88 barrels of clean oil on one hour open flow test late in June, thus taking the record for the field on estimated potential production.

Companies participating in the seepage oil production in the Yates field are not penalized on their proration allowance from regular wells, and are allowed to recover as much of the migratory oil as possible to prevent it from reaching the water in the Pecos River. The escaping oil first made its appearance on the west bank of the river, and led Grayburg Oil Company and previous owners of the oil rights to the river bed to trap the crude. The digging of shallow wells, pits and trenches by the Continental Oil Company and the Mid-Kansas-Transcontinental interests began last February when fresh water wells became contaminated with oil.

Strenuous efforts have been made by the oil and gas division of the Texas Railroad Commission and operators to locate the wells in the Yates field that have faulty casing seats and permit the oil to find its way to gravel beds near the surface. The source of the leaks are believed to be from wells high up on structure, and the natural drainage is towards the river, across and near the Continental Oil Company's lease. Many wells have been tested to determine if they can maintain a normal pressure when shut in at the control head, and one producer, which gauged 3499.24 barrels of oil on one hour test, has been plugged and abandoned because of being found partly responsible for the seepage.

Seepage oil production in the Yates field since October, 1928, to the close of July, is shown below by companies, and itemized for the past five months:

Prior to	Continental Oil Company	Grayburg Oil Company	Mid-Kansas-Transcontinental Interests
April	28,206	81,345	2,855
April	28,367	48,085	6,091
May	85,200	33,508	18,672
June	160,277	30,761	21,664
July	224,917	20,275	23,739
Total	526,967	213,974	73,021

1, 1 mi n New Berlin, dr 1785 ft chalk. The Texas Co.'s Dallas Wilson 2, Darst Creek, dk; Lemmie Anderson 1, Darst Creek, dr 2628 ft in Dobie lime; Lemmie Anderson 2, Darst Creek, sd 660 ft; Lemmie Anderson 3, Darst Creek, ru and sd. Gulf's Cercy Anderson 1, Darst Creek, lcn; Tadlock 1, Darst Creek, lcn. Bob Penn's Manford 1, 5 mi nw Darst Creek producer, ru; Bob Penn's Guadalupe River Bed 1, Darst Creek, lcn. Miles & Adams' Zaborski 1, 5 mi sw Darst Creek, sp.

MAVERICK COUNTY—Rycade Oil Corp.'s Chittim 3, 20 mi e Eagle Pass, dr 5100 ft gray lime; Chittim 4, 20 mi e Eagle Pass, dr 4450 ft gray lime; Sullivan 4, 20 mi e Eagle Pass, running 8-inch cas to 4220 ft. The Texas Co.'s Bandera County Land 1, 15 mi e Eagle Pass.

SOUTH LOUISIANA

ACADIA PARISH — Yount-Lee Oil Co.'s Houssiere-Latrielle 7, Evangeline, dr 5000 ft; Crowley O. & M. Co. 4, Evangeline, stdg 7563 ft; Crowley O. & M. Co. 5, Evangeline, lcn.

ASCENSION PARISH — Gulf's United Lands Co. 15, Sorrento, dr 4500 ft. Triumph Oil Corp.'s Lacey et al 2, 3 mi se Sorrento twnste, dr 3275 ft. Big Dome Drlg. Co.'s & J. S. Kimbrough's Rearwood 1, Darrow, dr 4800 ft. Pickard & Geisman's Desire Breaux 1, Sec. 32-10s-2e, sd 3780 ft.

CALCASIEU PARISH — J. O. Davis' Mimms 1, Lake Charles, mm 5600 ft. Wilfred Lahay's James 2, sd 3375 ft.

CAMERON PARISH — The Texas Co.'s Calcasieu Lake B-5, E. Hackberry, dr 1500 ft; Calcasieu Lake A-4, lcn. Pure Oil Co.'s Yount-Lee 7, Sweet Lake, dr 5960 ft; Yount-Lee 8, Sweet Lake, fsh for screen to dd from 5657 ft. Shell's Watkins 11, Black Bayou, dr 1329 ft; Watkins 12, Black Bayou, dr 1975 ft sand; Marceaux 1, Mallard Bay, dredging canal to lcn.

IBERIA PARISH—Gulf's State Z-10, Loreauville, dr 850 ft shale. The Texas Co.'s Vermilion Bay A-4, lcn. Jefferson Lake Oil Co.'s Lake Peigneur 2, lcn.

IBERVILLE PARISH—Shell's Wilbert 3, White Castle, core hard sand at 5858 ft. Standard of La.'s Wilbert 3, Bayou Blue, ru; Schwing 2, Bayou Blue, dr 880 ft gbo; Schwing 3, Bayou Blue, lcn.

JEFFERSON DAVIS PARISH—Vacuum Oil Co.'s DeVilbiss 2, Roanoke, dr 2700 ft.

LA FOURCHE PARISH—Gulf's Stark 14, Thibodaux, dr 1000 ft; Stark 18, Thibodaux, abn 1291 ft; Stark 23, Thibodaux, dr 500 ft.

PLAQUEMINES PARISH—Gulf's Morris & Rose 1, Spanish Pass, dk. The Texas Co.'s Garden Island Bay 2, ru. Humble's State Land 1, Lake Grande Ecaille dome, ru; Lake Washington 1, Lake Grande Ecaille dome, lcn.

ST. MARTIN PARISH—The Texas Co.'s St. Martin Ld. Co. Fee 1, Hager dome, dr 2650 ft gbo; St. Martin Ld. Co. Fee 2, Hager Dome, moving in. Yount-Lee Oil Co.'s La. Pet. Co. 5, Anse la Butte, completed for 1000 bbls 32.5 gravity pipe line oil at 3764 ft.

ST. MARY PARISH — Freeport Sulphur Co.'s Belle Isle 1, dr 1500 ft; Belle Isle 2, dr 1200 ft.

ST. TAMMANY PARISH—St. Tammany Pet. Corp.'s Fritchie 2, depth 2300 ft.

TANGIPAHOA PARISH—Joan Dev. Co.'s Lake Superior 1, sd 3315 ft. Completion Oil Co.'s Amos 1, dr 2000 ft.

TERREBONNE PARISH—The Texas Co.'s Taylor Bayou B-1, moving in; Bay Coon Road B-2, dk; Bay Coon Road B-3, lcn; Lake Barre A-2, ru; Timbalier Bay A-1, cap rock 3000 ft; Dog Lake Bayou B-1, lcn; Dog Lake Bayou B-2, lcn.

TEXAS

WEST TEXAS

Company, Well and Location		Initial Production Bbls.	Depth
GLASSCOCK COUNTY—			
The California Co., E. F. Turner 1		†	1534
MITCHELL COUNTY—			
Republic Prod. Co., Scott 1		*	3285
Simms Oil Co., Ellwood 1.....		*	4725
NOLAN COUNTY—			
L. G. Bradstreet et al, Kuteman 1..		*	4000
PECOS COUNTY—			
Independent O&G Co., Rayburn 1..		*	1970
R. D. Webb et al, Fee 1		¶6	472

BORDEN COUNTY—Louisiana O. & R. Corp.'s J. S. York 1, lcn. W. A. Moncrief & Humble O&R Co.'s S. I. Munger 1, spudded and sd. Teas-Gant et al's Long 1, dr 1585 ft.

BREWSTER COUNTY—Ed. W. Bateman & Co.'s Nevill 1-A, dr 1220 ft. Brewster Oil Co.'s Fee 1, fsh 1930 ft. E. L. Chapman et al's Skinner 2, sd 500 ft. J. P. Johnson & Bert Weekly's Jackson-Harmon 1, elev 3972 ft, sd in shale 2483 ft.

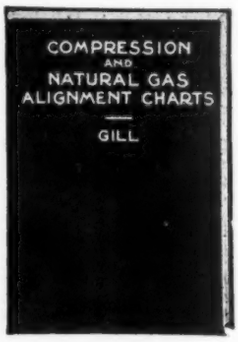
COKE COUNTY — Ray McCamey et al's McCutchen 1, sd hfw 3522 ft. Mid-Kansas O&G Co.'s Lackey 1, elev 2152 ft, dr hfw 3930 ft.

CONCHO COUNTY—Lloyd Jones et al's Jones 1, dr 2180 ft.

CRANE COUNTY—Gulf Prod. Co.'s Waddell 7, re-set tubing, pb from 3610 to 3567 ft; Waddell 8, spudding.

CROCKETT COUNTY—W. W. Donnelly-J. D. Young et al's Powell-Shannon 1, top salt 1125 ft, dr 1570 ft. W. A. Moncrief et al's Andrews 1, (Sec. 57), set cas to test show oil 1481 ft; Todd 1, (Sec. 29), machine. Taylor-Link Oil Co.'s Powell 3, top salt 1040 ft, dr 1890 ft.

CULBERSON COUNTY — Deep Rock Oil



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ABBREVIATIONS

NOTE—The following is the explanation of abreviations, signs, etc., used in completion and wildcat reports: *—dry hole, abandoned well; ‡—salt water; †—junked and abandoned; ¶—million feet of gas; abn—abandoned; bbls—barrels; b.s.—basic sediment; cas casing; co—cleaning out; dk—derrick; dr—drilling; fsh—fishing; ft—feet; in—inches; lcn—location; m—milling; n, s, e, w—north, south, east, west; r—reaming; sd—shut down; sdtr—sidetracking; sp—spudding; sr—straight reaming; std—standardizing; sw—salt water; td—total depth; ur—underreaming; wo—workover; wosr—waiting on standard rig.

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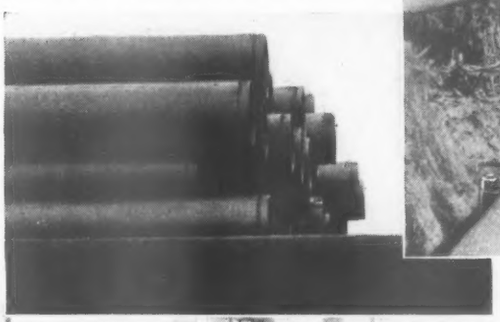

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Co. & Grisham-Hunter Corp.'s Kloh 3, set cas 860 ft. Hickey et al's Finley 1, elev 3916 ft, sd 2275 ft. Scott & Dittman's Miller 1, elev 4059 ft, set 6-inch cas 2885 ft. West Texas Oil & Explo. Co.'s McGregor 1, bad hole 620 ft.

ECTOR COUNTY—Penn Oil Co. and Humble's Kloh 1, rig.

EL PASO COUNTY—Lane-Tex Oil Co. (was C. E. Sillix's) Malone 1, set 10-inch cas 1107 ft.

FISHER COUNTY — Cranfill-Reynolds & Co. & Sun Oil Co.'s Flanigan 1, elev 1798 ft, ur cas 2660 ft; Texas Cement 1, rig. Culbertson Bros. et al's Griffin 1, sd 2970 ft. Magnolia Pet. Co.'s Alice Lee 1, dr 2355 ft. Mid-Kansas-Phillips Pet. Co.'s Stephenson 1-A, dr 1510 ft. Mid-West Explo. Co.'s Steele 1, rig. Henry Riley et al's Veatch 1, spudded and sd. Roeser-Pendleton & Amerada's Haught 1-A, elev 1803 ft, co with 900 ft oil in hole 3123 ft. Roeser-Pendleton & Landreth's Johnson 1, dr 1790 ft. The Texas Co.'s Stephens 1-B, dr 1490 ft.

GARZA COUNTY — Emerald Oil Co.'s Bargsley 1, elev 2542 ft, co for second shot with 200 ft oil in hole after shot 100 qts at 2510-35 ft, td 2551 ft. Gulf Prod. Co.'s Street 1-D, elev 2505 ft, top salt 770 ft, ur cas with hfw 3850 ft. Paul Steed et al's J. M. Boren 1, machine. Thompson et al's F. Tuffing 1, rig.

GLASSCOCK COUNTY—A. & F. Oil Co.'s S. Turner 1, elev 2543 ft, top lime 2155 ft, re-cem 5-inch cas 2488 ft, td 2507 ft. California Co.'s W. B. Currie 3, rotary rig. Gibson-Johnson et al's Dean 1, sd 3450 ft. Houston Oil Co. et al's McDowell 1, missed pay, sd 2603 ft. Kirby Pet. Co. et al's Phillips 1, elev 2624 ft, top lime 2090 ft, fsh junk after shot, td 2268 ft. Landreth Prod. Corp. & Tidal Oil Co.'s Houston 1, dk. Lion O&R Co.'s Coffee 1, dr 1890 ft. Mid-West Explo. Co.'s Edwards 1, trace oil 2315 ft, sr hole with hfw at 2479-85 ft. Penn Oil Co. et al's Shaffer 1, elev 2702 ft, dr 1710 ft. Schermerhorn Oil Co.'s Phillips 1, dk. Sun Oil Co.'s Phillips 1, dk. Texas-State Oil Co.'s Edwards 1, elev 2425 ft, top salt 1300 ft, missed pay, probably junked 2461 ft. World Oil Co.'s McDowell 2-C, elev 2543 ft, rig.

TOM GREEN COUNTY—Fitzgerald et al's Bennett 1, elev 1792 ft, co 1950 ft.

HOCKLEY COUNTY — World Oil Co.'s Ellwood 1, elev 3363 ft, top salt 2157 ft, co 3224 ft.

HOWARD COUNTY—Fuhrman Pet. Corp.-W. A. Moncrief et al's Read 1, elev 2446 ft, top salt 940 ft, top lime 2742 ft, dr 3012 ft. Meriwether Oil Co.'s Eva Smith 1, sd 430 ft.

HUDSPETH COUNTY — California Co.'s University 1, elev 5833 ft, sdtr 60 ft 13-inch cas, co 1640 ft. Geo. E. Richardson et al's Thaxton 1, rig. Western States Oil Co.'s Gardner-Mosely 1, elev 5086 ft, sd 3155 ft; Moore 1, elev 5050 ft, sd 2760 ft.

IRION COUNTY—J. B. Crawford et al's Williams 1, spudded and sd. Carl Cromwell & Fuhrman Pet. Corp.'s Nutt 1, lcn. Hodges & Baker's F. Tankersley 1, sd 1303 ft. Kingwood Oil Co. et al's Sugg 1, elev 2334 ft, dr gray lime 7678 ft. Pecos Valley Oil Co.'s Stock 2, dr 1240 ft. F. E. Webb & Banner Oil Co.'s Nutt 1, dr 945 ft. P. H. Williams et al's Ashe 1, co 3525 ft.

JONES COUNTY — J. H. Adsit et al's Swenson 1, sd 1441 ft. W. G. Clark et al's Miller 1, dr 2215 ft; Newman 1, dr 2210 ft. McGinley-Sigler Co.'s Whittemore 1, fsh 2737 ft. Mid-Tex O&G Co.'s King 1, sd 600 ft. Sedgwick O&G Co.'s Brown 1, dk. F. E. Shaheen et al's King 1, spudded and sd.

LOVING COUNTY — Lockhart & Co.'s Hazell 2, elev 2705 ft, fsh 3980 ft.

MENARD COUNTY—J. L. Duffey & Carl Cromwell's Winslow 1, elev 2141 ft, dr 2770 ft.

MITCHELL COUNTY—J. E. Alexander et al's Ellwood 1, sd 500 ft. Teas-Wheeler et al's Radford 1, elev 2223 ft, top salt 667 ft, top lime 1365 ft, set cas 4154 ft.

NOLAN COUNTY — Phillips Pet. Co.'s Plunkett 1, dr 3605 ft.

PECOS COUNTY — California Co.'s University-Landrun 1, rig. Continental Oil Co.'s University 1-A, top salt 950 ft, making two million ft gas 1600-08 ft, set 6-inch cas 1648 ft. Karl Crowley et al's Heiner 1, elev 2548 ft, sd 1302 ft. Cowboy Evans et al's Pecos Valley 1, sd 950 ft. Gibson-Johnson et al's Grace 1, elev 2866 ft, top salt 890 ft, sd 1785 ft. Jayhawk Pet. Co.'s Price 1, spudded and sd. J. L. Kennedy et al's M. R. Kennedy 1, lcn. Sam Kitts et al's Sherbino 1, elev 2884 ft, top salt 975 ft, sd 1010 ft. Landreth Prod. Corp.'s University 1, dr 620 ft. Mauch & Krogen's Holmes 1, sd 1442 ft. W. A. Moncrief's Clarkson 1, (Sec. 84), lcn; Tippett 2, spudded and sd; University 1, (Sec. 27), elev 2694 ft, fsh 190 ft; University 1, (Sec. 13), elev 2560 ft, top salt 860 ft, cased off 15 million ft gas 915 ft, dr 1475 ft. R. E. Moore et al's Arnold 1, dr black shale 1015 ft. Geo. B. Morgan & Moncrief's Toberg 1, dr 265 ft. J. D. O'Mara et al's Benett 1, dr 565 ft; Streety 1, dr 205 ft. S. B. Owens et al's J. Masterson 1, lcn. Pecos Crude Oil Pur. Co.'s Pecos Valley 3, dr 1100 ft. O. J. Perren et al's Peterson 1, dr 1540 ft. Phillips Pet. Co.'s Courtney-Pryor 1, elev 2951 ft, dr 2830 ft; Southern Life Insurance 1, dr 235 ft. Rowan & Tong et al's McDonald 1, top salt 725 ft, top lime 1400 ft, 700 ft sulphur water 1405-40 ft, dr 1520 ft. Mrs. M. M. Rowan et al's University 1, (Sec. 25), fsh 190 ft. Schumaker et al's Williams 1, elev 2980 ft, sd hfw 1483 ft. Shell Pet. Corp.'s Jackson 1, sd 675 ft; University 1-B, dr 850 ft; University 1-C, dr 525 ft. Talbot et al's Unsicker 1, machine. Taylor-Link Oil Co.'s University 2, top salt 850 ft, set cas 1413 ft. Irvin Drlg. Co. & B. J. Spikes Brown 1, elev 2387 ft, top salt 740 ft, sd 2258 ft. The Texas Co. & Phillips Pet. Co.'s Campbell 1, top salt 1010 ft, swab 60 bbls oil Saturday and 15 bbls oil Sunday at 1710-34 ft. Tidal Oil Co.'s University 1-B, (Sec. 3), dr 625 ft; University 1-C, (Sec. 17), dr 1075 ft. Tower & McKanna, Inc.'s University 1, dr 365 ft. Transcontinental Oil Co.'s University 1, elev 2552 ft, top lime 1035 and 3315 ft, dr 4340 ft. Trees Oil Co.'s J. C. Trees 2, rig. Clayton Williams et al's Sanford 1, elev 2509 ft, dr 1355 ft. World Oil Co.'s University 1, (Sec. 31), elev 2508 ft, rig; University 1-B, (Sec. 13), elev 2526 ft, dr 410 ft.

PRESIDIO COUNTY—Brite Prod. Co.'s L. C. Brite 4, sd 569 ft. C. E. Miller-Delmar & Phillips Pet. Co.'s Tootle 1, dr 3515 ft. TP Coal & Oil Co.'s W. W. Bogel 1, dr 210 ft.

REAGAN COUNTY—Big Lake Oil Co.'s University 131, dr lime 7998 ft; University

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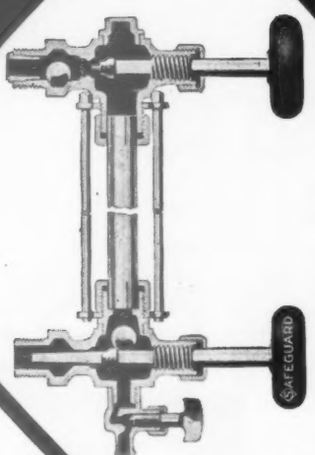

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151, dr hard sandy lime 3820 ft; University 1-C, dr sandy-lime 3355 ft; University 2-C, dr shale 3910 ft.

REEVES COUNTY—Black & Fink (was Earl Hamby's) Brooks-Huling 1, fsh 260 ft. H. T. Hansford et al's Williams 1, spudded and sd. Southern Crude Oil Pur. Co.'s Kloh 1-A, elev 2784 ft, dr 1170 ft. D. R. Thompson et al's Eddins 1, sd 5658 ft. Lee O. White et al's Mrs. Hershenson 1, elev 3244 ft, sd 2135 ft.

RUNNELS COUNTY—Herbert Oil Co. et al's Currie 1, ur cas 2250 ft. Independent Oil & Gas Co.'s Rollwitz 1, dr 4205 ft.

SCHLEICHER COUNTY — McKavitt Oil Co. & Cromwell's Tisdale 1, elev 2155 ft, sd 3500 ft. Phillips Pet. Co.'s Whitten 1, dr 4805 ft. Underwood Oil Co.'s Tisdale 1, spudded and sd.

SCURRY COUNTY — Camp Springs O&R Co.'s Quinn 2, rig. Cottingham & Briscoe's Truss 1, dr 455 ft. R. B. Pender et al's Davis 1, elev 2208 ft, top salt 445 ft, sd 3490 ft. Texas-Canadian Oil Co.'s Mooar 1, lcn.

SUTTON COUNTY — Phillips Pet. Co.'s Holman 1, elev 2277 ft, top lime 2317 ft, fsh 6633 ft. L. G. Priest et al's Allison 1, elev 2337 ft, dr 3280 ft.

TAYLOR COUNTY — J. B. Dunigan & Shell Pet. Corp.'s Davidson-French 1, sd 380 ft. J. B. Jameson et al's Webb 1, elev 1905 ft, dr 4886 ft. Magnolia Pet. Co.'s W. E. Hamner 1, ur 5-inch cas 3044 ft. Mid-Continent Pet. Corp.'s Cody 1, ur 2209 ft. C. M. Root Drlg. Co.'s Martin 1, fsh 2475 ft.

TERRELL COUNTY — Big Bend Oil Corp.'s Bassett 1, dr lime 1050 ft. Keck-Pecos Oil Trust's Hamilton 1, elev 1733 ft, sd 2550 ft. Mrs. J. B. McPhee et al's Sam Belt 1, sd 880 ft. Milham Corp.'s Bassett 1, elev 2270 ft, fsh 5245 ft.

UPTON COUNTY—Prairie O&G Co.'s McQuatters 1, dr 390 ft.

VAL VERDE COUNTY — Dyar Bros. et al's Wilson 1, elev 2115 ft, dr 3230 ft. Producers Oil Co. et al's Everett 1, dr 2525 ft. Valvert Oil Corp.'s Bassett 1-A, elev 2069 ft, sd 4009 ft.

WARD COUNTY—Alpine Oil & Dev. Co.'s Boogher 1, dr 530 ft. Atlantic & Delmar's Hayzlett 3, elev 2523 ft, top salt 725 ft, flow 100 bbls daily, sd second shot, td 2500 ft. Continental Oil Co.'s Sealy 2-A, dr 465 ft. C. C. Dorr et al's Costley 1, lcn. Gulf Prod. Co.'s Hutchings Assn. 2, elev 2655 ft, top salt 1240 ft, top brown lime 2250 ft, flowed 42 bbls 12 hours, td 2711 ft, hard sand; O'Brien 6, top salt 1068 ft, dr 1540 ft; Wristen 2, top salt 705 ft,flowed 22 bbls 35.1 deg. gravity Sunday 2417-55 ft. Penn Oil Co. & Atlantic's Bennett 1-A, elev 2571 ft, dr 1390 ft. Shipley Oil Corp.'s Lee Monroe 1, dr 465 ft. Tex-Oil Prod. Co.'s Redman 1, fsh 710 ft.

WINKLER COUNTY—V. T. Bolin & Co.'s Brown 2, top salt 1300 ft, top lime 2415 ft, sd 2420 ft. Continental Oil Co.'s Marton 1-A, top lime 2627 ft, dr 2645 ft. Liner Drlg Co. et al's Campbell 1, top salt 1155 ft, dr 1250 ft. Shell & Llano Oil Co.'s Scarborough 7, fsh 705 ft.

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Lide et al, Oden 1, 21-19-14.....	‡		2560
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Hunter 7, 17-19-14	‡		2442
Ohio Oil Co., Hunter 2, 17-19-14...	10		2415
D. C. R. Oil Co., Oden 1, 20-19-14..	12		2423
Standard Oil Co. of La., Hunter 6, 17-19-14	20		2418
Gulf Ref. Co., Hunter 1, 17-19-14....	*		2550
CLAIBORNE PARISH—			
Southern Crude Oil Purch. Co., Christian 1, 22-23-6e	*		3006
CLAIBORNE PARISH—			
El Dorado Chief Oil Co., Baker 1, 26-20-7w	*		3040
RICHLAND PARISH—			
Northern La. Nat. Gas Co., Boykin 2 (Relief well 1).....blowing wild			535
Palmer Corp., Jones A-1, 22-17-6e...	¶6		2457
UNION PARISH—			
Sundby et al, Security Trust 1, 6-23-1e	*		2300
WEBSTER PARISH—			
Magnolia Pet. Co., Atkins 1, 4-22-9	66		2665

BIENVILLE PARISH—W. G. Gray Tr's Snyder 1, 15-16-6w, washing to bottom, td 2924 ft.

BOSSIER PARISH—Corbett et al's Murff 1, 16-17-11, sd 990 ft. Nell & Lanier's Biedenharn 1, 23-21-14, sd 790 ft. Triangle Drilling Co.'s Thigpen-Herold 3, 11-17-12, sd 900 ft. Palmer Corp's Roos 1, 23-17-12, rig up. Walker et al's Antrim 1, 28-22-13, sd wo 3017 ft. John F. Woodman's Bolinger 1, 9-22-11, sd 3532 ft. Delaware La. Dev. Co.'s Bolinger 4, 38-23-11, claim 1500 ft, oil in hole wosr, td 3170 ft. Frank Estes' Pardee 2, 3-22-11, lcn.

CADDO PARISH—Dixie Oil Co.'s Robertshaw 92, 13-21-15, coring sandy quartzite, td 6310 ft (corrected). Sam Gold et al's Hunter Est. 2, 17-19-14, tested dry 2421 ft, coring 2428 ft; Hunter Est. 3, 17-19-14, drk. Fred McWilliams' Oden 1, 20-19-14, rig up. S. T. Onyett's Tr's Dixon 1, 10-19-14, tested dry, show oil 868 to 888 ft, dr 889 ft. I. N. Pharris Tr's Oden 1, 19-19-14, rig up. Ohio Oil Co.'s Hunter Est. 3, 17-19-14, waiting cas, td 2415 ft. Simplex Oil Co.'s Dickson 1, 33-20-14, tested dry 2468 ft, dr 2590 ft. Ohio Oil Co.'s Hunter Est. 4, 17-19-14, drk; Hunter Est. 5, 17-19-14, dr 1000 ft. Standard Oil Co. of La.'s Henderson 3, 7-19-14, drk; Hunter Est. 3, 17-19-14, set 6-in cas 2360 ft, td 2412 ft; Hunter Est. 8, 17-19-14, lcn; Oden 3, 18-19-14, dr 1475 ft. A. H. Tarver's Glassell-Dickson 1, 31-20-14, dr 2450 ft. Sam Gold et al's Hunter Est. 4, 17-19-14, lcn. Haynes Bros.' Oden 1, 19-19-14, dr 2330 ft. Ray-Dawes Drilling Co.'s Hunter 2, 9-19-14, dr 650 ft. Palmer Corp.'s Hunter 2, 8-19-14, g ft br sand, will pump, td 2411 ft. Lide et al's Levee Bd. 1, 24-19-14, rig up; Hunter 1, 22-19-14, dr 250 ft. D. C. R. Oil Co.'s & Crystal O. R. Co.'s Oden 2, 20-19-14, coring 2408 ft. Gulf Ref. Co.'s Hunter 2, 17-19-14, bailing, td 2405 ft. Oden 5, 18-19-14, coring shale strk lime 2427 ft.

CLAIBORNE PARISH—O. G. Collins et al's Moseley 1, 29-20-5w, dr 1150 ft. El Dorado Chief Oil Co.'s Dance 1, 27-20-7w, dr 1115 ft.

DESOTO PARISH—P. J. Becker's Tull 1, 23-12-15, fsg ds 2475 ft. Benedum & Trees' State 2, 22-14-12, dr 3468 ft. Fair et al's Hamilton 1, 1-12-13, dr chalk 2550 ft. L. M. Moffit Tr's Boatright 1, ta 3078 ft. Longstreet

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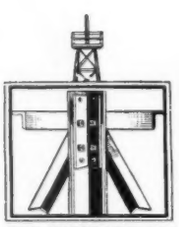

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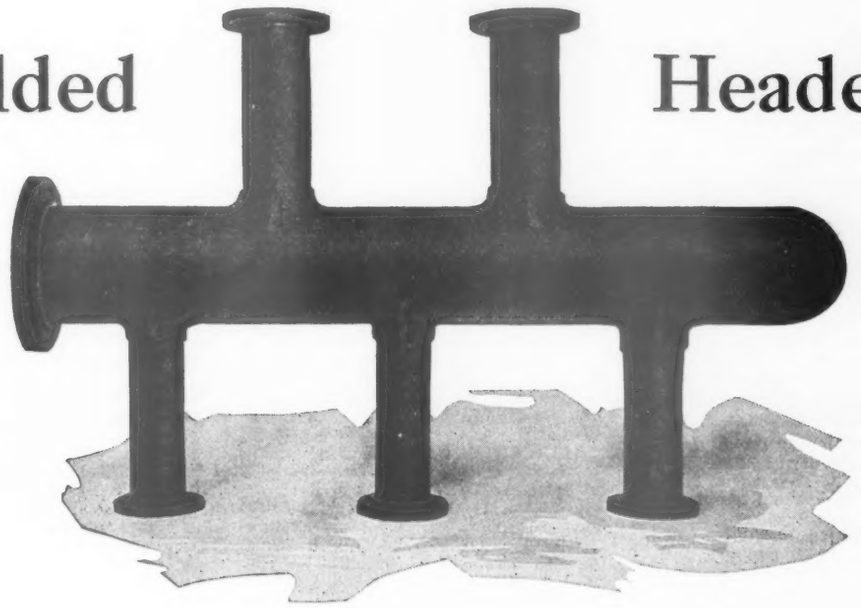

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FRANKLIN PARISH—Davis et al's Moore 1, 12-11-6e, sd 1430 ft.

JACKSON PARISH—Geo. O. Baird's Tremont Lbr. Co. 1, 24-16-1w, coring hard sandy lime 3397 ft.

LASALLE PARISH—Tunica Pet. Co.'s L. & A. 48, 16-7-2e, will pump, td 808 ft. L. & A. 49, 17-17-2e, dr 535 ft.

LINCOLN PARISH—V. E. Shaw et al's Voss 1, 1-20-3w, sd 2774 ft.

MOREHOUSE PARISH—Rainbow Oil Co.'s Louisville Cooperage 1, 33-22-8e, drk. J. P. White's Chess Wymond 1, 32-19-6e, arr make ds test 2688 ft.

NATCHITOCHES PARISH—S. D. McDaniels' Clarke & Morse 1, 23-5-6w, 2536 ft. Robeline O. & G. Co.'s Cassady 1, 7-8-9w, ds struck 3230 ft.

OUACHITA PARISH—Haynes Bros.' Dixie Lbr. Co. 1, 54-17-3e, lcn. Ouachita Nat. Gas Co.'s D'Arbonne B-2, 25-19-2e, arr deepen, td 3349 ft. Phillips et al's School Fee 1, 16-16-4e, dr gmbo 4265 ft.

RAPIDES PARISH—G. E. Silbertson's Willemach 3, 13-5n-4w, ta 2250 ft. Glenmora Pet. Co.'s Fee 1, 1-2n-2w, ta 3850 ft. Ayres Bros. et al's Wicklipp 1, 9-5n-2w, lcn.

RED RIVER PARISH—Benedum & Trees' Franklin 1, 29-11-9, dr 2004 ft.

RICHLAND PARISH—Austin & McDonald's Millsaps 1, 17-17-6e, tested 200,000 ft gas, wo 2510 ft; Millsaps 2, 17-17-6e, sd wo 2697 ft; Millsaps 3, 16-17-6e, rig up; Millsaps 4, 16-17-6e, lcn. Hope Prod. Co.'s Eubanks 1, 26-17-6e, dr lime 2640 ft. S. R. Humble's Binion-Sartro 1, 22-17-6e, cmtd 6-in cas 2274 ft. Palmer Corp.'s Eubanks 1, 26-17-6e, lcn. La. Pet. Co. 1, 22-17-6e, cleaned out to 2405 ft, td 2995 ft; Miles 2, 12-17-6e, rig up. Southern Carbon Co.'s Binion-Sartor 1, 21-17-6e, fsh ds 2252 ft. Northern La. Nat. Gas Co.'s Boykin 4, (Relief well 3), rig up. Hope Prod. Co.'s Boykin 1, 21-17-6e, lcn.

SABINE PARISH—R. L. Gay Tr's & H. D. Easton's Bowman-Hicks 4, 14-7-14, sd 68 ft. Long-Bell Lbr. Co. 1, 26-8-14, dr 2460 ft. Sabine Lbr. Co. 2, 23-7-14, dr 2610 ft. H. A. Tarver's Long-Bell Lbr. Co. 1, 29-8-13, wo 3535 ft.

UNION PARISH—G. E. Carmatte's Tugwell 2, 21-22-1e, sd wo 2450 ft. H. C. McDonald's Union Sawmill 2, 18-23-1e, sd wo 1500 ft.

WEBSTER PARISH—F. M. Fuller's Monzingo 1, 27-18-8, drk pat. Donohoe Oil Co.'s Roseberry 1, 33-23-9, std 1400 ft, fluid 5 ft, sand will pump, td 2746 ft. Kemp et al's Campbell 1, 11-22-10, mill out lin set 4¼-in cas with pckr 2653 ft. Magnolia Pet. Co.'s Sallie Coyle 1, 2-22-11, 1500 ft fluid in hole, will pump, td 2965 ft; McCook & Hibbler 1, 22-21-10, coring red sandy shale 6656 ft; Roseberry 1, 15-23-9, cmtd 6⅝-in cas 2755 ft, td 2770 ft; Kight 1, 33-23-9, drk.

WEST CARROLL PARISH—W. F. Hyde's Chickasaw Imp. Co. 1, 24-23-11e, moving in rig.

OKLAHOMA

WOODS COUNTY—T 28n, R 16w, Sec. 14, Peerless et al's Cromwell 1, c sw se, spd. T 27n, R 16w, Sec. 33, Sinclair O. & G.'s Share 1, c ne sw, drlg 5067 ft.

ALFALFA COUNTY—T 27n, R 11w, Sec. 12, Smith Bros.' Forbes 1, nec se nw nw, dr 610 ft.

KAY COUNTY—T 26n, R 2e, Sec. 32, J. A. Vincent & Natl Union's McNeal 1, nw ne, sd 2795 ft.

HARPER COUNTY—T 25n, R 22w, Sec. 14, Hoffer Oil's Cooper 1, nw c se, sd 4182 ft.

WOODS COUNTY—T 25n, R 15w, Sec. 10, Bu Vi Bar et al 1, sec sw, ts 5003-19 (show gas) dr 5702 ft.

GRANT COUNTY—T 25n, R 4w, Sec. 22, Cowden's Vollmer 2, nec se ne sw, lost tools 5640 ft, sd.

WOODWARD COUNTY—T 24n, R 17w, Sec. 32, Otstot Dev. Co.'s Simmons 1, sec, sd 1500 ft.

WOODS COUNTY—T 24n, R 13w, Sec. 18, Miller et al's Copenhaver 1, nwc, spd and sd.

ALFALFA COUNTY—T 24n, R 11w, Sec. 14, Washoma's Acre 1, swc ne, rig.

GARFIELD COUNTY—T 24n, R 6w, Sec. 9, Pulse & Beamer's White 1, sec nw, hfw 4730-4800 ft, sd 5556 ft.

WOODWARD COUNTY—T 23n, R 20w, Sec. 9, Billy's Wyatt 1, c se, sd 376 2ft. T 23n, R 17w, Sec. 2, John Farran's Belva 2, csl sw se, sd 1387 ft.

MAJOR COUNTY—T 23n, R 16w, Sec. 4, Wilson et al's Creech, nec sw, sd 510 ft.

NOBLE COUNTY—T 22n, R 1e, Sec. 24, Gypsy's Dailey 1, swc ne ne, dr 3860 ft.

WOODWARD COUNTY—T 21n, R 21w, Sec. 25, Sharon's Elmore 1, swc, rig blown down, td 3025 ft. T 21n, R 19w, Sec. 15, Burgoyne Bros.' Merklin 1, swc se ne, sd 1910 ft.

MAJOR COUNTY—T 20n, R 14w, Sec. 23, Keller et al's Horton 1, c ne ne, spd and sd.

NOBLE COUNTY—T 20n, R 1w, Sec. 26, Magnolia's King 1, sec sw, dr 3455 ft.

BLAINE COUNTY—T 19n, R 10w, Sec. 13, Washoma's Phillips 1, c nw sw, sd 2415 ft.

LOGAN COUNTY—T 18n, R 3w, Sec. 33, Healey & Consolidated Drlg. Co.'s Quier 1, sec sw, sd 3970 ft.

KINGFISHER COUNTY—T 16n, R 7w, Sec. 6, Gault-Brown 1, c nw se, (owdd), show gas 5088-5128 ft, cemt 8-in 5200 ft. T 16n, R 6w, Sec. 27, Crawford & McKenna's Sturgeon 1, nec sw, sd 4895 ft.

CANADIAN COUNTY—T 14n, R 6w, Sec. 9, A. D. Spears' Piatt 1, swc nw, sd 3223 ft.

CIMARRON COUNTY—T 5n, R 5 E.C.M., Sec. 22, Magnolia's School Land 1, c se ne, lost hole 4356 ft, abn.

TEXAS COUNTY—T 1n, R 15 E.C.M., Sec. 25, Skaer et al's Hitch 1, nwc, sd 250 ft.

OSAGE COUNTY—Sec. 19, Peters Pet. et al 1, sec, dr 782 ft. Sec. 23, White Eagle 1, nwc ne se, dr 875 ft. Sec. 33, Duffield & Howard 1, swc nw, dr 2895 ft. T 23n, R 10e, Sec. 32, Union Oil & Mining 1, sec nw, dr 2358 ft.

LINCOLN COUNTY—T 17n, R 5e, Sec. 7, Mote & Wheeler et al's McLaughlin 1, sec nw nw, spd. T 14n, R 6e, Sec. 33, Magnolia's Mitchell 1, nec dr 4357 ft. T 12n, R 3e, Sec. 29, Phillips' Robinson 1, sec nw, rigging up.

PITTSBURG COUNTY—T 9n, R 16e, Sec. 32, Pattison et al's McDuff 1, swc nw se, sand 5556-59- ft, shot 240 qts co.

HASKELL COUNTY—T 9n, R 18e, Sec. 10,

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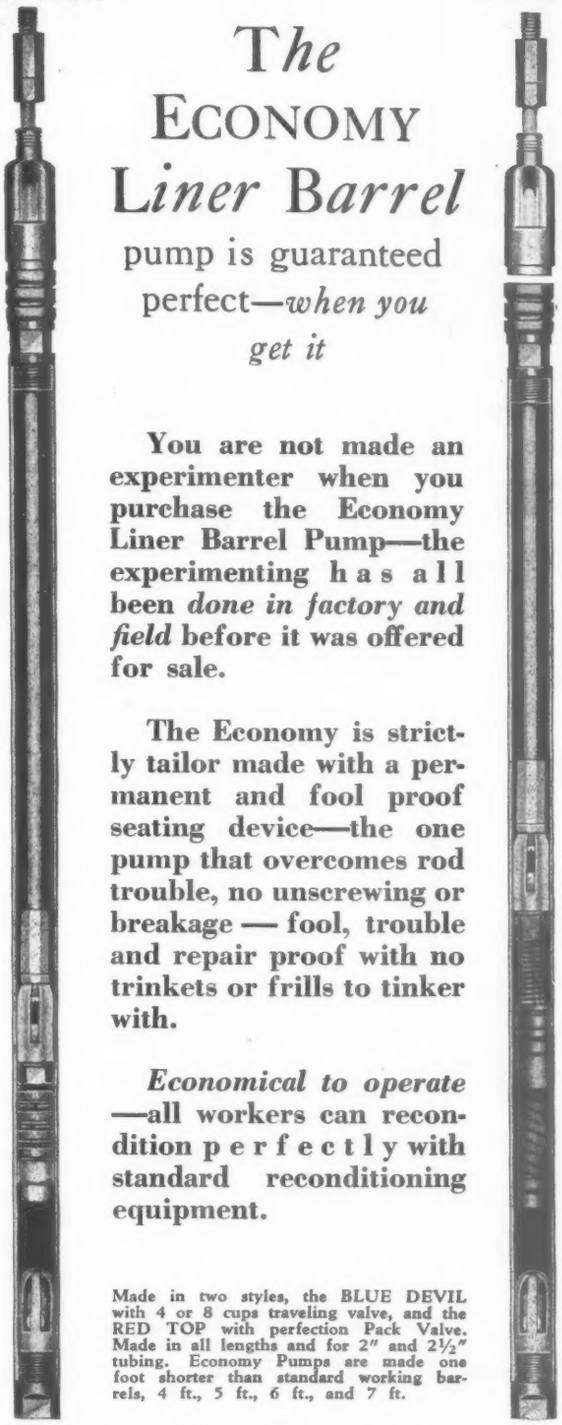

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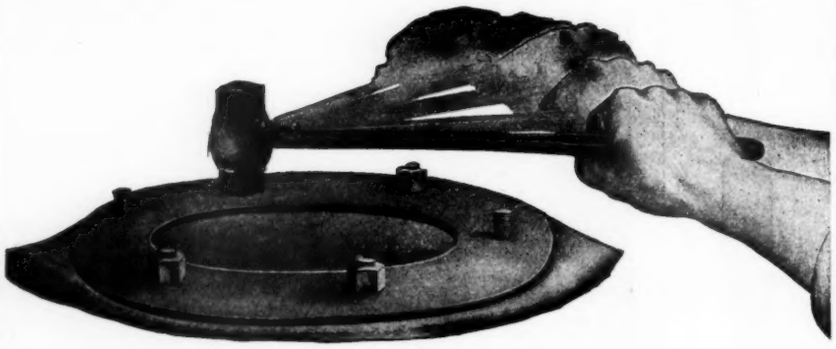

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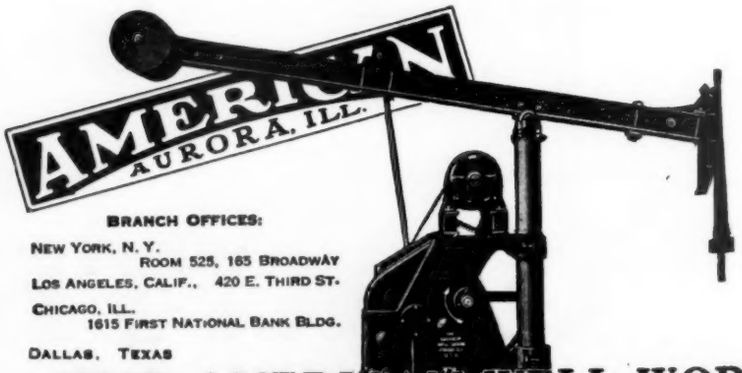

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LATIMER COUNTY—T 5n, R 18e, Sec. 15, Limestone O. & G. Co.'s Murray 1, sd 3950 ft, several shows of gas, resetting 5-in.

OKLAHOMA COUNTY—T 12n, R 2w, Sec. 30, Magnolia's Noble 1, nwc sw sw, waiting on 3-in pipe 6337 ft. T 12n, R 1w, Sec. 19, Mid Kansas & Ramsey's Trosper 1, nec nw, dr 6242 ft.

OKFUSKEE COUNTY—T 11n, R 7e, Sec. 6, Superior et al's Carolina 1, sec, surface pipe set, sd.

SEMINOLE COUNTY—T 10n, R 6e, Sec. 12, I.T.I.O. et al's Chatkey 1, swc ne, dr 2100 ft.

POTTAWATOMIE COUNTY—T 8n, R 3e, Sec. 9, Cal Cul Oil Co.'s Wilson 1, nwc ne nw, dr 3280 ft.

HUGHES COUNTY—T 8n, R 11e, Sec. 25, McGee Bros.' Smith 1, sec sw, sand 3814-36 ft hfw, sd.

CLEVELAND COUNTY—T 7n, R 1w, Sec. 15, Sooner's Vandever 1, nec nw sw, sd 3120 ft.

POTTAWATOMIE COUNTY—T 7n, R 3e, Sec. 15, Amerada et al's Vineyard 1, nwc ne ne, dr 3060 ft. Sec. 19, Frank Moore's Fundis 1, sec ne, lcn. T 6n, R 3e, Sec. 11, Shaffer & Margay's Adams 1, nec, fsh 3940 ft.

SEMINOLE COUNTY—T 6n, R 6e, Sec. 8, E. L. Harris' Harjoche 1, sec ne se, rur. T 6n, R 7e, Sec. 9, Gypsy's Thomas 1, sec nw, td 4304 ft, d and a.

HUGHES COUNTY—T 5n, R 9e, Sec. 17, E. W. Whitney's Huddleston 1, sec sw, ur 5-in 3910 ft, fsg 3908 ft.

PONTOTOC COUNTY—T 4n, R 8e, Sec. 23, Independent's Hampton 1, nec, dr 3425 ft.

PITTSBURG COUNTY—T 4n, R 12e, Sec. 32, Kerr & Key's Tall 1, c nw nw, sd 2406 ft.

COAL COUNTY—T 2n, R 8e, Sec. 6, J. S. Cosden's Richardson 1, nwc ne ne, 8-in at 2218 ft. Sec. 7, McGinley & Sigler's Wilsey 1, nwc se se, sd 2170 ft. T 2n, R 8e, Sec. 10, E. W. Whitney's Miller 1, sec ne, sd 202 ft. T 1n, R 11e, Sec. 10, I.T.I.O.'s Cook 1A, sec sw nw, dr 7885 ft.

CUSTER COUNTY—T 14n, R 14w, Sec. 1, W. E. Witt's Wellman 1, c se, sd 100 ft.

ROGER MILLS COUNTY—T 12n, R 24w, Sec. 23, Bucy & Stone's Williams 1, c sw, lcn. T 11n, R 26w, Sec. 4, L. C. Hivick's Davis 1, c nw ne, sd 1240 ft.

CANADIAN COUNTY—T 10n, R 6w, Sec. 1, J. V. Bailey's Robinson 1, c ne nw, sd 150 ft.

BECKHAM COUNTY—T 8n, R 22w, Sec. 20, Carson et al's Denby 1, swc se ne, dr 1555 ft.

GREER COUNTY—T 6n, R 24w, Sec. 24, I.T.I.O. et al's Fee 1, c ne, reaming at 1902 ft.

CADDO COUNTY—T 6n, R 13w, Sec. 8, Abernathy & Brown's Horton 1, sec, sd 535 ft. T 6n, R 10w, Sec. 26, English Drlg. Co.'s Garner 1, nwc sw, dr 1600 ft.

HARMON COUNTY—T 4n, R 26w, Sec. 8, S. M. Stauffer's Caftleman 1, nwc se, sd 625 ft.

JACKSON COUNTY—T 1n, R 20w, Sec. 4, Houseman et al's Northington 1, nec, sd 2020 ft.

TILLMAN COUNTY—T 1n, R 17w, Sec. 13, Allen Bros.' Howell 1, nwc se, sd 835 ft.

COTTON COUNTY—T 4s, R 9w, Sec. 31, Amerada's Delana 1, sec nw nw, reaming at 3212 ft.

MURRAY COUNTY—T 1n, R 2e, Sec. 17, Revels & McGee's Wolfe 1, nwc, sd 2275 ft.

JOHNSTON COUNTY—T 1s, R 7e, Sec. 29, Smith-Kinsley's Lane 1, sec nw, sd 2250 ft.

CARTER COUNTY—T 4s, R 1e, Sec. 32, Leonard Woodruff's Zellner 1, nec nw se, dr 1929 ft. T 4s, R 2e, Sec. 32, Tex-Okla Drlg. Co.'s Anderson 1, sec ne se, sd 420 ft.

BRYAN COUNTY—T 9s, R 9e, Sec. 36, W. C. Endicott et al's Craig 1, c nw ne, dr 1660 ft.

WOODWARD COUNTY—T 23n, R 17w, Sec. 23, Prairie & Transcontinental's Wilbur 1, nec, dr 3870 ft.

CLEVELAND COUNTY—T 10n, R 2w, Sec. 8, Prairie & Slick's Sudik 1, c n ene, dr 6976 ft.

TENNESSEE

DECATUR COUNTY—Standard Oil Co. of La.'s Wyatt 1, repr engine after trying str crooked hole td 1260 ft. Chester County O. & G. Co.'s Montgomery 1, sdtr crooked hole td 1043 ft.

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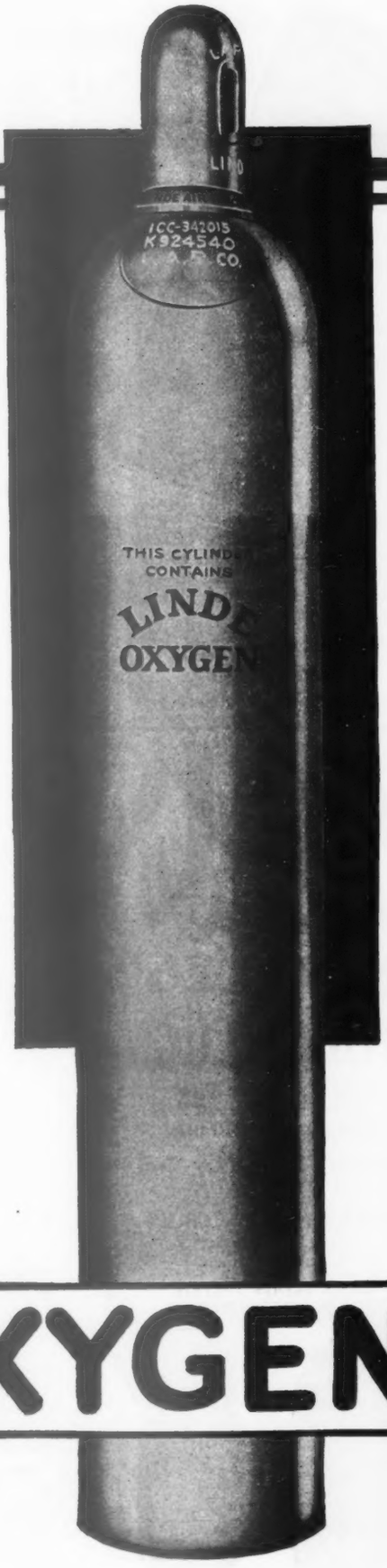

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MISSISSIPPI

ALCORN COUNTY—Alcorn Pet. Co.'s Mathews 1, 14-2-7, dr limestone 2160 ft.

CHICKASAW COUNTY—Hightower & Golson's Fleming 1, 20-13-13, trying shut off quicksand 1240 ft.

CLAIBORNE COUNTY—Ben White's Old Hen 1, 36-10-4, fsh drill pipe td 1973 ft (correct.)

HARRISON COUNTY—(Gulfport District) Dalton Oil Co.'s Lopez 1, 15-7-10w, lcn.

HINDS COUNTY—(Jackson District)—Mrs. Ella Rawles Reeder's State Land 1, 25-6-1, sd 2825 ft. Hennessey et al's Riverside 1, 23-16-5, arr to resume dr 105 ft. Southern Christian Inst.'s Fee 1, 29-6-4, dk.

HUMPHRIES COUNTY—Steel et al's Love 1, 30-14-3, sd 60 ft.

LAFAYETTE COUNTY — Collette et al's Fee 1, 22-10-1w, lcn.

LAUDERDALE COUNTY—(Meridian District)—Meridian Nat. Gas Co.'s Mattie Houser 1, 33-8-18, sd in sand and shale, td 1868 ft. Lauderdale O&G Co.'s Lackey 1, 2-7-16, dr Selma chalk 1755 ft. J. R. Smith Oil Co.'s Craig 1, 2-6-14, dk.

LINCOLN COUNTY (Brookhaven District) Miss. Land & Oil Co.'s Pat Case 1, 21-8-6, dr 265 ft.

LEE COUNTY—Lee County Pet. Co.'s Hickman 1, 12-8-6, sd 920 ft.

MONROE COUNTY (Amory District)—AmoryPet. Co.' s Hall 1, 8-13-17, jarring out 5 3/16-in cas, td 3045 ft. Amory Dev. Co.'s Bourland 1, 2-13-19, ur cas 2580 ft. Amory Nat. Gas Co.'s Carter 1, 17-13-17, swabbing sand without any shows 2410-25 ft, td 2529 ft. Ark. Nat. Gas Corp.'s Rye 1, 22-15-17, gas show of 82,000 ft now down to 20,000 ft, 3532-37 ft, dr dark sand 3670 ft. Park Bowser's Cowart 1, 2-12-19, arr resume with drive pipe.

WARREN COUNTY— (Vicksburg District)—Henderson et al's Dornbusch 1, 8-18-5, dr sand 1725 ft.

WEBSTER COUNTY—Cumberland Oil Co.'s Henley 1, 15-21-11, T. A. 1865 ft.

YALABOUSHA County (Water Valley District)—Phillips Bros.' James 1, 20-11-5w, arr to deepen after coring oil sand 2905 to 2911 ft.

ALABAMA

CHOCTAW COUNTY—Robinson & Greer's Douglas Oil Co. 1, (formerly Whiteside 1), 15-9-2, rig up. Gulf Ref. Co.'s Thornton 1, 21-9-2, dr 1300 ft. Dease 1, 33-9-2, lcn.

LAMAR COUNTY—Briggs & Knapp's Wefel 1, 25-12-14, arr resume dr after being sd black shale 785 ft.

LAWRENCE COUNTY—Peerson Drlg. Co.'s Jacobs 1, 11-7-7, arr abn 300 ft.

MARION COUNTY—P. J. McAlpine's Clark 1, 29-11-14, lcn.

SUMPTER COUNTY—B. W. Bates' Fee 1, 3-18-1w, sp.

WASHINGTON COUNTY—Hobson et al's Wilson 1, 27-7-1w, dr 650 ft. Hobson Bros.' 1, 9-8-2, sdtr 8-in cas 600 ft. Oscar Brown's U. S. Land & Cotton Co. 1, 26-3-2, no report.

EAST TEXAS

BOWIE COUNTY—Hooks O. & G. Co.'s Rosenberg 1, King sur, T. A. td 3086 ft.

CAMP COUNTY—Rogers et al's Enfelt 1, Montgomery sur, sd 1920 ft.

HARRISON COUNTY—McRitchie et al's Dean 1, Craft sur, washing to bottom td 2165 ft.

MARION COUNTY—Pettit Oil Co.'s Rives 3, Noll sur, will pump td 2306 ft.

RED RIVER COUNTY—D. M. Buffington's Hoosier 1, Hughart sur, sd 1863 ft. Shad Harper's Garland 1, Jos. Wagley sur, sd 1440 ft. Johnson Pet. Co.'s Randolph 2, Dean sur, sd 1862 ft.

SHELBY COUNTY—Chapparral Oil Co.'s Holt 2, Matthew Moore sur, sd 3004 ft. Gulf Ref. Co.'s Caraway 1, Patterson sur, dr blue shale 5768 ft.

KANSAS

STEPHENS—Trees Oil Co.'s Candy 1, sw ne sw, 3-35-38w, td 500 ft, moving in rotary.

SUMNER COUNTY — Davidson et al's Strickland 1, sw se, 12-35-1w, rig. White & Chenney's Unknown 1, nec 11-34-2w, rog.

STEPHENS COUNTY—W. Sidwell et al's Kelly 1, sw ne 16-34-38w, sd 1310 ft.

BARBER COUNTY—Skelly's Temple Ranch 1, sw ne 13-34-15w, sd 2650 ft.

HARPER COUNTY—Slick's Miller 1, sec 13-34-5w, dr 3950 ft.

SUMNER COUNTY—Mid Continent's Clark 1, sec 31-34-3w, dr 2670 ft. Morgan & Carey, Hawkins 1, sw se 9-34-1e, dr 1500 ft.

BARBER COUNTY—Barbara, Angel 1, c nw ne, 14-33-13w, 15M gas 4554-4637 ft.

SUMNER COUNTY—Shell's Armstrong 1, nec 12-33-1e, ru.

BARBER COUNTY—Robertson et al's Powell 1, c se se, 11-32-10w, dr 1200 ft.

HARPER COUNTY — Slick's Thomson 1, nwc 10-32-6w, dr 4100 ft.

COWLEY COUNTY—J. B. Markey's Tatum 1, se sw 11-31-6e, sd 500 ft. Landon & Slick's Daniels 1, nec se 6-30-5e, dr 2100 ft.

KINGMAN COUNTY — Gypsy's Kincaid 1, ne nw 18-29-5w, siliceous lime 4513-25 ft.

SEDGWICK COUNTY — Johnson & Marshall's Roy 1, c ne se sw 23-29-1w, ur 6-inch cas, td 3015 ft. Lario Teachoiff 1, ne sw 27-19-1w, dr 2570 ft.

BUTLER COUNTY—Empire's Parks 1, ne nw 36-29-4e, dr 2055 ft.

PRATT COUNTY—Jones & O'Haver Lunt 1, csw nw 15-28-14w, sd 2865 ft.

SEDGWICK COUNTY—Marland & Ameradа's Sensroth 1, nwc 25-28-4w, dr 445 ft. D. P. Fleeger's Ottaway 1, c sw sw nw 16-28-2w, rig. Kellar & Lewis, Buckles 1, nw se 3-28-1w, fsh 975 ft. Kyle et al's Pinney 1, c sw nw se 29-28-1w, spudded and sd. Shawver et al's Scott 1, c se sw sw 10-28-1e, td 3555 ft D&A. La Font et al's Carlton Bros. 1, c se se sw 24-28-1e, sd 1685 ft.

KIOWA COUNTY — British American's Woodward 1, nec 35-27-17w, dr 4320 ft.

SEDGWICK COUNTY—Prairie-Slick's Rosenhagen 1, c sw se ne 33-27-4w, dr 4250 ft. Miller & Wentz's Shaeffer 1, nw ne 9-27-2w, fsh 3815 ft. Hammond & Stout's Roeder 1, sw nw 23-27-2w, dr 3795 ft. C. B. Davis' Kinkead 1, nec 14-27-1e, dr 1400 ft. Lario's Calkins 1, sw se 7-27-2e, dr 2635 ft. E. W. Marland's Huggins 1, c se nw sw 30-27-2e, dr 1490 ft.

BUTLER COUNTY — Alladin's Bronsenger 1, ne se 24-27-3e, Viola lime 3012-22 ft., filled up 1500 ft oil running tubing.

GREENWOOD COUNTY — F. Konkay et al's Rock 1, ne nw ne, 7-27-12e, ru.

RENO COUNTY—Austin Drlg. Co.'s Strickey 1, swc nw 12-26-5w, dr 3025 ft.

SEDGWICK COUNTY—Washabaugh's Harrison 1, c nw ne ne 3-26-2w, dr 2485 ft. Boyle et al's Sandusky 1, c nw ne se, 34-26-1w, td 1165 ft, st reaming 10-inch cas. Simmons & Canary's Scott 1, ne nw ne 22-26-1e, dr 3504 ft, Viola lime 3430-50 ft, hfw. Burnett's Davidson 1, c nw nw sw 27-26-1e, sd 2668 ft. Twist et al's Armstrong 1, ne nw 28-26-1e, spudded and sd.

BUTLER COUNTY—Arkansas Fuel's Campbell 1, Sec 9-28-3e, dr 1225 ft. Lario's Gordon 1, nwc 15-26-3e, dr 1265 ft. Sinclair's Johnson 1, nec 16-26-3e, dr 1235 ft.

SEDGWICK COUNTY—Empire's Henderson 1, swc 35-25-4w, dr 4285 ft., Wx sand 4094-4130 ft. Deering-Marshall's Dick 1, c sw 4-25-1w, dr 2825 ft. Twist et al's Joseph 1, 4-25-1w, sd 1980 ft.

BUTLER COUNTY—White Eagle's Bacholder 1, sw c 17-25-3e, set 6-inch cas 2775 ft. Travis et al's Harrison 1, sec 21-25-3e, dr 510 ft. Millmack et al's Clearwater 1, swc 33-25-3e, ru.

GREENWOOD COUNTY—Ward-McGinnis' Anderson 1, ne nw sw 13-25-10e, dr 630 ft.

RENO COUNTY—Skelly, Birkett 1, ne sw 30-24-7w, dr 2687 ft.

HARVEY COUNTY — Independent & Reserve's Moulds 1, c ne 7-24-1w, ur 8-inch cas, td 2600 ft. Jolly & Ogg's Randall 1, nec 11-24-1w, sd 3444 ft, base lime 3388 ft. Payne et al's Ady 1, ne nw se 16-24-1e, dr 1370 ft.

BUTLER COUNTY — Crawford et al's Thompson 1, nw sw 2-24-3e, rvg tubing , chat 2530-34 ft, 1800 ft oih 8 hrs.

HARVEY COUNTY—Joe Liggett's Regier 1, c se nw se, 2-23-3w, rig. Rosenthal et al's Ingalls 1, c nw sw 24-23-3w, sd 3295 ft. McCulloch's Prouty 1, nw sw 3-23-1w, sd 2020 ft. Jolly & Ogg's Hupp 1, se ne 22-23-1w, sd 3220 ft. Margaret Gay Oil Co.'s Grouse 1, nw ne nw 29-33-1w, sd 3012 ft.

HODGEMAN COUNTY—Phillips' Houseman 1, c nw ne 30-22-22w, dr 1145 ft.

RENO COUNTY—Witt et al's Olsen 1, c se se nw 14-22-6w, rig.

HARVEY COUNTY — Roth & Fauret's

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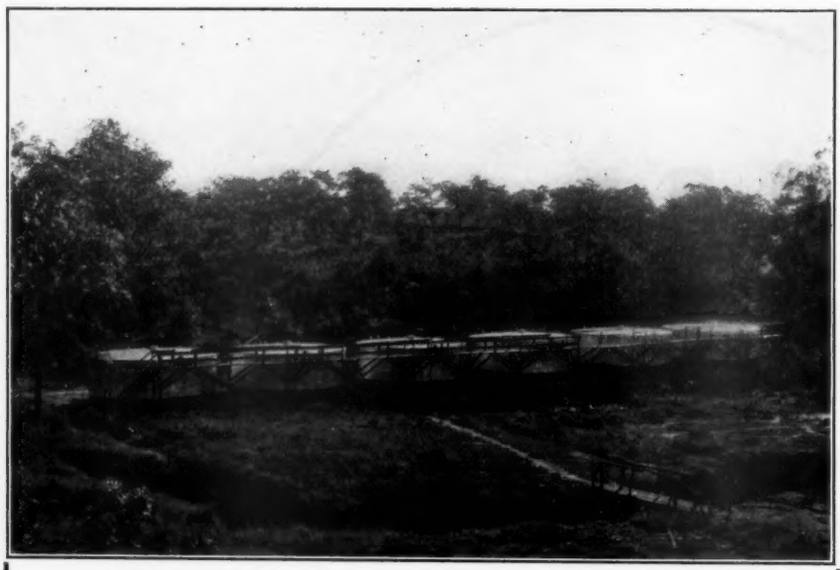

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We have a very successful treatment, preventing Dry Rot, and destruction by Termites.
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Send us your inquiries.

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5733 GRAND CENTRAL TERMINAL, NEW YORK, N. Y.

Sectional Cut of 6" 180°
Standard "Tube Turn," 9" Radius
Note Uniform Wall Thickness

TUBE—TURNS
A New Process Fitting for Welded Piping

Where piping is concerned tube-turns may be used to good advantage and we urge you to consider their use.

Shipments From Houston Stock

Maintenance Engineering Corp.
1400 Conti St. Preston 2274-5
HOUSTON, TEXAS

Bombrowsky 1, nwc 26-22-1w, fsh bit 2650 ft.

PAWNEE COUNTY—F. C. Troupe's Lovett 1, cel ne ne 31-21-16w, sd 1560 ft.

McPHERSON COUNTY — Ted Washabaugh's Vosshell 1, ne ne 9-21-3w, swedging pipe. Helmerich & Payne's Rosen 1, c ne se sw 23-21-2w, sd 3504-08 ft, hfw. Helmerich & Payne's Klassin 1, se ne ne 14-11-1w, sd 2390 ft.

MARION COUNTY — Holworth et al's Skiles 1, se nw nw 30-21-3e, td 3063 ft, ur 6-inch cas, top dolomite 2980 ft.

LYON COUNTY—Blair et al's Martindale 1, c nw ne ne 27-21-11e, dr 710 ft. Gordan & Stat's Murphy 1, nw ne 32-21-11e, dr 650 ft.

RICE COUNTY — Higgins & Steinbuble, Shurr 1, ne sw 21-20-10w, subd 90 bbls oil 3278-80 ft. Darby's Johnson 1, c nw ne se 24-20-6w, spudded.

McPHERSON COUNTY—Mid Kansas Kuns 1, c se sw 11-20-5w. Slick-Pryor & Lockhart, Gratten 1, c ne nw nw 34-20-3w, fsh, td 2150 ft. Lario's Diener 1, se sw 10-19-1w, rig. Tatlock et al's Meyer 1, c sw sw ne 32-20-1w, sd 3515 ft, hfw Wx sand 3474-79 ft.

MARION COUNTY — Empire's Reising 1, ne nw nw 34-20-2e, lcn.

RUSH COUNTY — Danciger O&R Co.'s Pinonka 1, c ne sw ne 17-19-17w, dr 3680 ft.

RICE COUNTY — Allison & Fitzwilliams' Poland 1, ne sw ne 36-19-8w, cellar. Millmacks Cain 1, se 29-19-7w, ru.

McPHERSON COUNTY — Perry et al's Wade 1, c se 20-19-4w, lcn. McPherson's Chindberg 1, c nw nw 18-19-2w, sd 2996 ft, top chat 2992 ft.

MARION COUNTY—Davis et al's Bartel 1, se ne 1-19-1e, rig. General Utilities Propp 1, c ne se sw 8-19-4e, water 2430-35 ft.

LANE COUNTY—Robinson et al's Dickerson 1, swc nw se 11-18-27w, set 8-inch cas 2625 ft.

NESS COUNTY—E. W. Marland's Moses 1, ne se 7-18-25w, dr 3100 ft.

RUSH COUNTY—Sinclair's Seur 1, c se nw nw 8-18-17w, dr 3635 ft, hfw 3625 ft.

McPHERSON COUNTY—E. W. Marland's Swanson 1, c ne sw ne 36-18-4w, dr 2180 ft. McPherson County Gas Co.'s Rasmussen 1, swc 8-18-3w, sd 2445 ft.

MARION COUNTY—Shell's Scully 1, nw ne 34-8-3e, ur 6-inch cas 2640 ft.

RUSH COUNTY—Danciger's Swindt 1, c sw se sw 22-17-17w, fsh 3675 ft. Central Commercial's Brock 1, nec sw sw 12-17-16w, spudded and sd.

OSAGE COUNTY — Gobel & Bending's Bartlett 1, c sw sw 28-17-15e, sd 1190 ft.

ELLSWORTH COUNTY—Tatlock et al's Sackens 1, c sw se, 25-17-9w, spudded. Texas' Sherman 1, ne sw 16-17-18w, dr 1830 ft.

LANE COUNTY—Dixie's Thorstenberg 1, nw ne 10-16-3w, rig. Boyle et al's Miller 1, swc se 21-16-1w, ur 5-inch cas 3250 ft.

DICKINSON COUNTY—Prairie's Morgan 1, nwc 26-16-3e, dr 2730 ft. Milmack et al's Biehler 1, sw ne 28-16-4e, ur 6-inch cas 2716 ft.

ELLIS COUNTY—Rush Oil Co.'s Gatewood 1, nw 4-15-20w, fsh, td 2555 ft. Finney & Welmer, Freeman 1, nw se se, 24-15-20w, spudded and sd.

RUSSELL COUNTY — Empire - Prairie's Bocks 1, c se ne ne 23-15-14w, ru.

ELLSWORTH COUNTY — Templeman's Lanbangagen 1, c sw 20-15-6w, dr 1750 ft.

SALINE COUNTYAustin's Olsen 1, c nw sw se 10-15-4w, spudded. Dixie's Muiri, csw se sw 6-15-2w, dr 3126 ft. Cress & Hawky, Menli 1, nec 12-15-2e, rig.

RUSSELL COUNTY — Allison & Fitzwilliams' Mahoney 1, nw se 5-14-12w, ur 6-inch cas 3376 ft.

SALINE COUNTY—Kenning-Coastal Co.'s Beal 1, c 23-14-5w, sd 4005 ft, green shale 3920 ft.

ELLIS COUNTY—Mid West's Berens 1, c se se nw 12-13-16w, rig.

SALINE COUNTY — Kenning - Coastal's Hughes 1, cw½ ne nw 20-13-4w, sd.

WALLACE COUNTY—Menton & Entyre's Parker 1, c se nw sw 8-12-41w,, rig.

TREGO COUNTY—Phillips' Spitz 1, c se se se 24-12-25w, rog. Mid Kansas' Ridgway 1, ne sw 28-12-21w, ur 15-inch cas 950 ft. Day's Guyler 1, c sw ne ne 36-12-21w, spudded and sd. Day's Unknown 1, c ne nw sw 2-11-21w, dr 2667 ft.

ELLIS COUNTY—Buren et al's Fisher 1, nw se 4-11-20w, spudded. Burger et al's Had-

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THESE pieces welded in double lengths were subjected to the following extreme tests:

The pieces were dropped several times from height of railroad car upon a rail. These tests in no way fractured or harmed the weld.

The pieces were anchored near the gas weld and a chain attached to a locomotive was secured near the end of the pipe. The locomotive pulled on the pipe distorting it as shown in the photograph near weld indicated by arrow. The weld remained intact.

No double length pipe can be stronger than Chester Double Length Pipe.

The field test of the long 10-inch line from which these pieces were selected at random did not develop a single leak in the weld.

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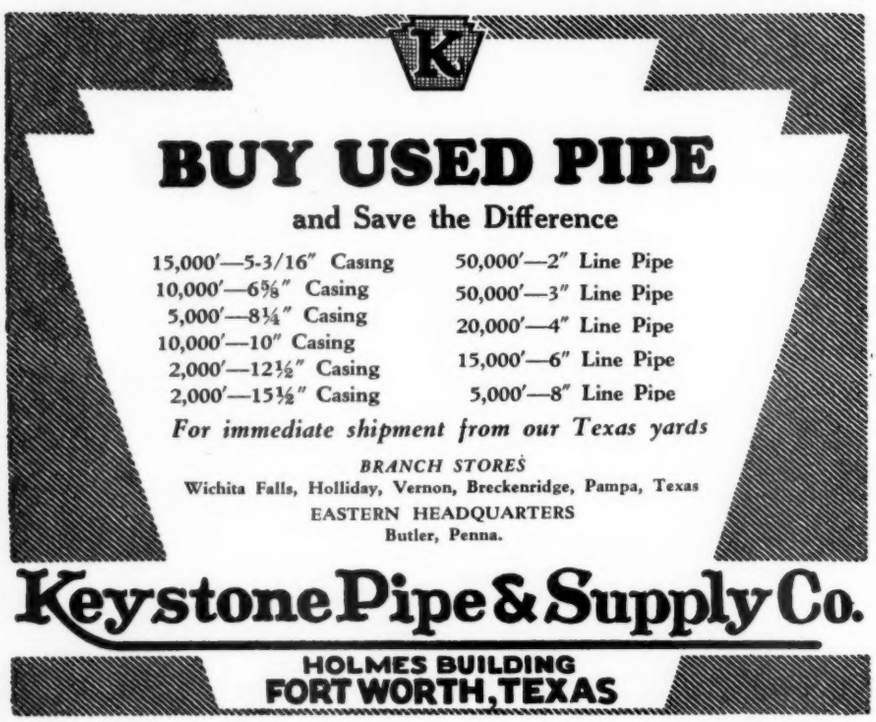

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ley 1, c sw sw nw 20-11-17w, 2200 ft oih 3408-20 ft.

CLAY COUNTY—Derby's Meimuller, c nw sw 9-10-3e, rig.

JEFFERSON COUNTY—Wichita Oil Co.'s Simpson 1, nw sw sw 19-10-17e, ru and sd.

ROOKS COUNTY — Burford & Brimm's Toxa 1, ne sw se 22-9-17w, spudded and sd. Krueger et al's Steis 1, c nw se sw 12-9-16w, spudded and sd.

GRAHAM COUNTY—Gulf Coast's Johnson 1, swc sw se 27-8-15w, dr 4000 ft.

SHERMAN COUNTY—A. D. Hansen et al's Murray 1, ne se nw 22-7-40w, sd 3035 ft.

OSBORNE COUNTY—Phillips' Grieve 1, nw se ne 6-7-12w, dr 1265 ft.

RILEY COUNTY — Derby-Skow Bros.' Lundstrum 1, ne 32-7-5e, dr 1240 ft.

OSBORNE COUNTY—Trees' Payenter 1, c ne se se 22-6-15w, dr 3309 ft. Mid Kansas' Boyce 1, se nw 8-6-13w, dr 1265 ft.

RILEY COUNTY—Gray et al's Smith 1, ne se 30-6-6e, dr 1500 ft.

SMITH COUNTY—Phillips' Clydesvale 1, se nw 23-5-14w, dr 1725 ft.

WASHINGTON COUNTY — McCool & Vincent's Linn 1, nw ne 27-4-3e, dr 2300 ft.

MARSHALL COUNTY—Irwin et al's Cooper 1, ne nw 10-3-7e, sd 2240 ft, hfw 2045-65 ft.

PHILLIPS COUNTY—Watsonian & British American's Weiman 1, c sw sw 34-2-19w, sd 3570 ft.

ARKANSAS

Completions

UNION COUNTY—
Root Ref. Co., Oliver 1, 18-17-13.... * 3308

CALHOUN COUNTY—Ohio Oil Co.'s Stout Lbr. Co. 1, 31-14-12, dr 3360 ft. Phillips Pet. Co. et al's Freeman-Smith Lbr. Co. 1, 25-16-13, set 15½-in cas 34 ft, dr rock 1320 ft; Eagle Mills Lbr. Co. 1, 11-12-16, dr 3360 ft.

COLUMBIA COUNTY—Jacob Laskin et al's Dennis 1, 11-20-23, cemtd 6⅝-in cas 3505 ft, td 3567 ft. T. R. Brown et al's Spencer 1, 18-18-22, tested dry through ds 2740-60 ft, cored sw sand 2994-3000 ft. Helena O. & G. Co.'s Pickler 1, 19-19-22, sd 2762 ft.

FAULKNER COUNTY—Gold Creek O. & G. Co.'s Stermer 1, 17-4-13, ta 3782 ft.

GARLAND COUNTY—H. H. Given's Garrett 1, 1-13-19w, dr with tools on junk, 3105 ft. Chaywood Oil Co.'s Malvern Lbr. Co. 1, 17-2-17, wo 1668 ft.

GRANT COUNTY—Jones & Watkins' Meek 1, 5-4-11, ta 1400 ft.

LINCOLN COUNTY—Pine Prairie O. & G. Co.'s Carter 1, 33-10-6, arr resume dr 2176 ft.

LITTLE RIVER COUNTY—Grote et al's Allen 1, 31-12-31, ta 2941 ft.

LOGAN COUNTY—Ark. La. Pipe Line Co.'s Hanna 1, ur 8½-in cas 2950 ft, td 3000 ft.

MADISON COUNTY—Independent O. & G. Co.'s Banks & Teague 1, 6-16-17, cemtd 6⅝-in cas 2168 ft, tested dry plugged back to 410 ft, tested 3,500,000 ft gas 600 ft wo.

OUACHITA COUNTY—Copenhaver et al's Warnick 1, 2-15-17, drk. Flaucher et al's Bucks 1, 7-15-17, ta 2465 ft. Lohman et al's Fogle 1, 18-14-16, sd 1510 ft. Timberlake et al's Wright 1, 25-14-18, sd wo 2907 ft. Wesson et al's Booth 1, 12-15-19, sd 2203 ft. McDonald Oil Corp's Wilson A-2, 25-15-18, tested nine joints oil and sw sr to test again 2761 ft. Root Ref. Co.'s Wilson 1, 25-15-18, perf cas 2725-85 ft, pumping 45 bbls fluid 25% sw. Houston Oil Co.'s Wilson B-4, 25-15-18, drk. Geo. Kouri et al's A. Wilson 1, 24-15-18, dr 1030 ft. E. M. Jones' Wilson A-1, 26-15-18, lcn. Atlantic O. P. Co.'s & E. M. Jones' Allen C-1, 25-15-18, lcn.

PULASKI COUNTY—Wonder State Dev. Co.'s Wilson 1, 21-2-11, lcn.

UNION COUNTY—Modisett et al's Union Sawmill 1, 1-18-14, rig up. S. Arrendale's Gallagher & Nelson 1, 18-18-17, topped sand and sandy lime 2109 ft, cored sandy lime to 2127 ft, sr seat to test through ds 2098-2127 ft. W. M. Coates Tr's McDuffie 1, 32-19-16, sd waiting cas 4076 ft. O. W. Estes' Ramsey 1, 2417-14, drk. E. L. Foster et al's Murphy Land Co. 1, 22-17-17, sd 1400 ft. McDonald Bros.' Mayfield 1, 29-19-15, ta 2210 ft. Ohio Oil Co.'s Stout Lbr. Co. 1, Acct. 2, 30-16-13, dr 2436 ft. Root Ref. Co.'s Oliver 1, 18-17-13, dry abn, td 3308 ft. Stark et al's Ainsworth 1, 8-19-16, drk. T. J. Woodley's First National Bank 1, 34-19-18, drk. J. P. Hawkins et al's Goodwin 1, 6-17-15, set liner 2195 ft, 5 ft sandbailing showing gas 1½ to 2 mil ft, may deepen.

NORTHERN CALIFORNIA

Completion

Company, Well and Location	Initial Production Bbls.	Depth
SUMMERLAND—		
Gaviota Oil Co. 1	*	1280

KERN COUNTY—

BAKERSFIELD—Taft Well Drlg. Co.'s Delfino 1, 2-30-27, dr sandy shale 4328 ft.

BELRIDGE—Ozena Oil Co.'s 27-29-21, dr shale 717 ft. Ventura-Pacific Oil Co.'s 1, 18-29-22, repairing equipment, td 3450 ft.

BENA—Elmer Oil Co.'s 1, 15-30-30, rigging up rotary 2855 ft.

BUTTONWILLOW — Milham Exploration Co.'s Crites 1, 8-28-23, fsh for cas, td 2670 ft. Richfield's Redding 1, 36-27-23, swabbing water, td 7620 ft.

GOULD HILLS—Elmer Oil Co.'s 1, 2-29-20, dr 5448 ft. J. H. Kennedy's 1, 5-29-21, running 8⅝-in cas to carry, td 505 ft. K. C. Wallace's 1, 32-29-21, dr shale 1705 ft.

LERDO — Shell's Ansolabehere 1, 5-29-27, swabbed water and little oil on test at 4190 ft.

McFARLAND—General Petroleum's KCL-1, 25-26-25, dr brown shale 5915 ft.

ROSEDALE—Elmer Oil Co.'s Houghton 1, 33-29-26, dr sandy shale 3915 ft.

SHALE HILLS—Day Oil Co.'s 1-A, 1-27-18, dr hard brown shale 1270 ft.

TEMBLOR HILLS — Union's 1, 27-32-23, testing water shutoff 4958 ft.

SANTA BARBARA COUNTY —

BETTERAVIA—Shell's U. S. A.-5, 36-10-35, coring 1742 ft.

BUELL—Union's Buell 1, dr hard shale 1600 ft.

CARPENTERIA—Continental's Bailard 1, dr 4466 ft.

CASMALIA—Keystone Oil Corp.'s Paderewski 1, 33-10-34, sd cemt 760 ft. Dome Oil Co.'s Donovan 1, 20-10-35, coring 1333 ft.

GOLETA—Barnsdall's Edward's 3, dr shale 1765 ft. General Petroleum's More 1, 21-4-28, blew out from 4533 ft, flowing gas. Petroleum Securities' Bishop 1, dr brown shale 3855 ft.

LOS ALAMOS—L. B. O'Niel's Orena 1, dr brown shale 2464 ft.

NAPLES—Pacific Western's Wiley Ranch 1, 7-4-29, dr 3790 ft.

ORELLA—Shell's Rutherford 1, 36-5-31, coring 5318 ft.

POINT ARGUELLO—Standard's Sudden 1, dr 250 ft.

POINT CONCEPCION—Standard's Gerber 1, sd 2430 ft. Western Gulf's Hollister 1, dr out cemt, td 3172 ft.

SANTA MARIA—System Oil Co.'s 1, 36-10-34, dr brown shale 4075 ft.

SUMMERLAND—George F. Getty's Becker 1, rigging up; Becker 2, lcn. Lincoln Drlg. Co.'s Williams 1, 21-4-26, pumping 300 bbls, td 1417 ft. Southern Exploration Co.'s Twitchell 1, swabbing for prod test, well does not flow, td 1220 ft.

SURF—Keystone Pet. Co.'s True Ranch 1, dr shale 1330 ft.

VERONICA SPRINGS — Veronica Springs Synd.'s 1, 20-4-27, dr hard sand 250 ft.

VENTURA COUNTY

CASITAS—Miley Oil Co.'s Casitas 1, 12-3-24, dr hard sand 1666 ft.

FILLMORE—Frank Oil Co.'s 1, 35-4-20, co 1960 ft.

LOCKWOOD—Lockwood Valley Oil Co.'s 1, dr 250 ft.

OJAI—California-Ventura Oil Co.'s LaCrosse 1, dr sandy shale 3275 ft. Continental's Sulphur Mountain 3, dr oil sand and shale 2077 ft.

PIRU—Bolsa Chica Oil Co.'s Snow 1-A, dr brown shale 700 ft. Pacific Western Oil Co.'s Tehmescal 5, 6⅝-in cas cemt 3250 ft, td 4520 ft.

SANTA PAULA — San Pedro- Pt. Fermin Synd.'s 1, 13-4-21, coring 991 ft.

SATICOY—Standard's Citrus 5, 10-2-22, fsh 7585 ft.

SIMI—Shell's Marr 1, 31-3-17, coring 3362 ft.

MISCELLANEOUS

FRESNO COUNTY—Currency Pet. Co.'s 1, 14-21-14, re-dr 230 ft. Oceanside Oil Co.'s 1, 33-22-16, dr hard shale 480 ft. Petroleum Securities Co.'s Gatchell 1, 28-20-16, dr 626 ft; Ladd 1, 28-20-16, dr shale 4605 ft.

KINGS COUNTY—H. B. Porter's 1, 9-24-17, dr 150 ft.

MONTEREY COUNTY—Shell's Dudley 1,

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"V" Pilot Packing

Gives Long and Dependable Service

Remains Absolutely Tight

(under both kick-off and flowing pressures)

Reduces Friction

Will Not Score Piston Rods

"V" PILOT is a semi-metallic packing with a continuous solid "V"-shaped bar backed by resilient asbestos. Its metal face minimizes friction, while its resilient back compensates for the vibration of the rod.

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In addition to air and gas lift work, "V" Pilot is equally advantageous on Derrick engines, Slush Pumps (both steam and mud ends), Polish Rods, Oil Field Gas Pumping Engines (to seal oil between crankcase and compressor chamber), and Pipe Line Pumps.

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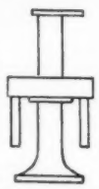

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15-22-9, coring 3712 ft. Standard's Piedmont 1, grading for rig. Union's Paige 1, 8-22-28, dr brown shale 1422 ft.

SAN LUIS OBISPO COUNTY—Midwest Oil Co.'s Porter 1, 34-31-15, fsh for bailer 2025 ft. Panorama Oil Co.'s 1, 7-31-21, dr hard shale 3955 ft. Paso Robles Synd.'s Emerick 1, 27-27-11, dr sticky shale 2715 ft. Pismo Dome Oil Co.'s 2, 5-23-13, dr shale 1075 ft. T. H. Purman's 1, 12-32-22, dr hard shale 3555 ft. Texas Pacific Coal & Oil Co.'s 1, oil showings 2375 ft. Union's Russ 1, re-dr brown shale 3690 ft; Chandler 1, 12-32-15, dr blue shale 3755 ft.

TULARE COUNTY—Petroleum Securities' Vedder 1, 22-24-27, rig.

SOUTHERN CALIFORNIA

BELVEDERE—W. H. Taylor's Hellman 1, dr sandy shale 4682 ft.

CLEARWATER—The Texas Co.'s Montana Land 1, 8-4-12, dr hard sand and shale 3939 ft.

COMPTON—California Well Drlg. Co.'s 1, 11-4-13, will co and resume drilling, td 7665 ft.

DEL REY—Ohio Oil Co.'s Recreation Gun Club 1, sp 8-2-29.

FULLERTON—Shell's Bastanchury 1, 28-3-10, dr sand and shale 4672 ft.

HAWTHORNE—Standard's Freeman 1, 5-3-14, dr brown shale and sand 6533 ft.

EL MONTE—L. Morgan West's Sing 1, sp 8-2-229.

INGLEWOOD—L. T. Edward's Wilson 1, rigging up.

MONTEREY PARK—Monterey Park Pet. Co.'s Jepson 1, 25-1-12, dr gray sand and hard shale 4975 ft.

NEWHALL—P. B. Anderson's 1, 1-3-16, dr conglomerate 520 ft. Southern California Drlg. Co.'s Needham 1, dr oil sand and shale, will cemt cas and test showings, td 1385 ft.

NEWPORT—Mesa Pet. Corp.'s B. A. 1, 16-6-10, dr hard brown shale 4800 ft.

POMONA—Pomona Oil Ass'n's 1, 32-1-8, dr hard gray sand 1215 ft.

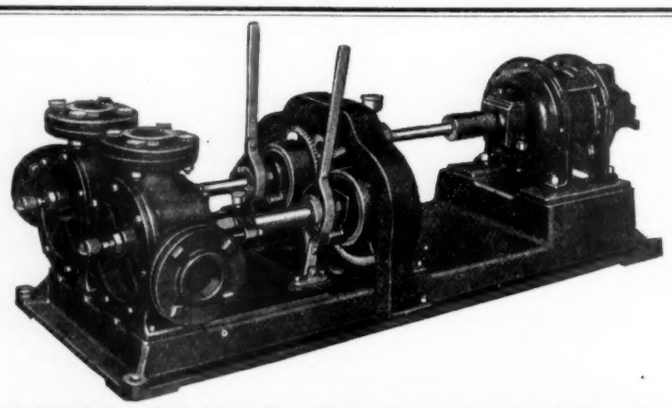
PUENTE—Brea Canyon Development Co.'s Bierd 1, 3-2-9, dr shale and gray sand 855 ft. R. C. Tucker's Grazide 1, dr brown shale 1905 ft.

RICHFEILD—Western Drlg. & Prod. Co.'s Day 1, 21-3-9, 6⅝-in cas cemt 4309 ft, td 5780 ft, dr out cemt.

SOUTH LOS ANGELES—Burlingham Pet. Corp.'s 1, will run oil string and test showings, td 2187 ft. George Hanners' Stallman 1, 8-3-13, rigging up.

TELEGRAPH CANYON—Union's Rimpau 1, 13-3-9, dr hard shale 568 ft.

SAN BERNARDINO COUNTY—Urmi Oil Co.'s Schuh-Zillers 1, dr brown shale 428 ft.



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Contracts taken for Torsion Balance Work

Esperson Bldg., Houston, Texas
Phone Fairfax 4383

JOHN F. WEINZIERL
CONSULTING GEOLOGIST
ADVISOR ON GEOPHYSICAL INSTRUMENTS
619 Petroleum Bldg., Houston, Texas

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Phone Fairfax 8232 Houston, Texas

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Patents Obtained, Trade Marks, Patent Causes
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Attorneys at Law
Bankers Mortgage Building,
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Specializing in Oil Law and Land Law

What Happens
when you step on the gas?

To most people, all gasolines look very much alike. It is only when you call on your motor for its best performance that you discover the difference between them.

Then---those cars which have Humble Flashlike Gasoline in their fuel tanks are away in a flash! No need to bother with starting in "low"---powerful Humble Flashlike Gasoline shoots you ahead in "second"---a quick shift to "high" gives you added speed---then---you slip into the coveted position---out ahead---the open road before you!

There's no sputtering or choking. You enjoy a smooth, resistless thrust which leaves other cars behind---sputtering and fuming to a jerky start---like race horses left at the post.

Study the specifications of Humble Flashlike Gasoline given below. You will readily see why this superior-made gasoline gives such out-of-the-ordinary results. Humble Flashlike Gasoline may be bought at stations wherever you see the Humble Signs.

HUMBLE OIL & REFINING COMPANY

SPECIFICATIONS

LABORATORY ANALYSIS			WHAT IT MEANS TO YOUR MOTOR
Initial Boiling Point	110 Maximum	.	Easy starting---First in the get-away---No sputtering
% distilled at 221° Fahr. % distilled at 284° Fahr. % recovery	25 Minimum 52 Minimum 97%		More power, long burning stroke, less gear shifting
End Point	400	.	Complete vaporization---complete combustion
Doctor Test	OK	.	Clean odor---never offensive
Corrosion Test	OK	.	No choking or corrosion of gas line
Color	Plus 25	.	Highly refined, clean, and clear
Sulphur	less than 1/10 of 1% Max.	.	No pitting of valves, or fouling of oil
Gum Test	OK	.	No resinous precipitate to clog carburetor

Twenty Tests in Southwest Texas Drilled Below 5000 Feet
(*Continued from page 23*)

Kleberg County, two tests, so far as the writer knows, have been sunk below 5000 feet, as follows:

Humble Oil & Refining Company's Flato 1. The total depth is 5205 feet. Drilling commenced on May 10, 1924, and the hole was abandoned on July 4, 1925.

Humble Oil & Refining Company's Flato 4. This test is in the heart of Kingsville field. Nineteen feet of sand, carrying oil, was encountered at 5674-5693 feet. An attempt was made to bring in a well from this depth, but production did not materialize, and the test is now drilling ahead around 6100 feet.

In addition to the importance attached to the finding of an oil sand at almost 5700 feet in the Kingsville pool, much interest was aroused in the technical problems connected with the testing of this deep sand. The temperature at the bottom of the hole was 125°F. Casing was not only cemented, but the cement was permitted to fill the inside of the casing to a height of nearly 300 feet above the bottom. In drilling out the cement, cores were taken at various intervals and examined to determine the effect of the high temperature at the bottom of the hole on the setting of the cement. The effect on the core-barrels of coring at such great depths under conditions of intense heat were also studied. It is reported that the hole was carefully measured by the latest devices to discover if there were any deviations from the vertical.

At the extreme southwestern tip of the Gulf Coast of Southwest Texas, a test was drilled some years ago, that almost reached the 5000-foot level. This is the Neils Esperson test, near Brownsville, which attained a depth of 4578 feet.

Summary

A statistical analysis and summary of the holes drilled below 5000 feet in Southwest Texas, reveals the following data: Deepest hole: 7859 feet, United North and South Oil Company's Kelly 1, Caldwell County.

Second deepest hole: 7635 feet, Rycade Oil Corporation's Chittim 2, Maverick County.

Total number of holes drilled to depth exceeding 5000 feet, 20.

Total number of holes drilled to depth between 5000 and 6000 feet, 15.

Total number of holes drilled to depth between 6000 and 7000 feet, two.

Total number of holes drilled to depth exceeding 7500 feet, three.

Total number of holes drilled to depth exceeding 5000 feet in proven fields, 10.

Total number of holes drilled to depth exceeding 5000 feet in wildcat territory, 10.

Total number of holes drilled to depth between 5000 and 6000 feet in proven fields, seven.

Total number of holes drilled to depth between 6000 and 7000 feet in proven fields, one.

Total number of holes drilled to depth exceeding 7500 feet in proven fields, two.

Total number of holes drilled to depth between 5000 and 6000 feet in wildcat territory, eight.

Total number of holes drilled to depth between 6000 and 7000 feet in wildcat territory, one.

Total number of holes drilled to depth exceeding 7500 feet in wildcat territory, one.

Total number of holes drilled to depth exceeding 5000 feet, classified by geological provinces:

Balcones and Luling Fault zone, four.

Edwards Plateau, one.

Western part of Rio Grande Embayment, six.

Eastern part of Rio Grande Embayment (Mirando or Laredo district), four.

Gulf Coast, five.

Total number of holes drilled to depth between 5000 and 6000 feet, classified by geological provinces:

Balcones and Luling Fault zone, two.

Western part of Rio Grande Embayment, five.

Eastern part of Rio Grande Embayment (Mirando or Laredo district), four.

Gulf Coast, four.

Total number of holes drilled to depth between 6000 and 7000 feet, classified by geological provinces:

Edwards Plateau, one.

Gulf Coast, one.

Total number of holes drilled to depth exceeding 7500 feet, classified by geological provinces:

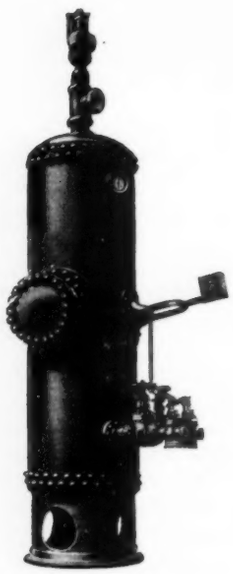
Balcones and Luling Fault zone, two.

Western part of Rio Grande Embayment, one.

It is possible that the writer, being an independent geologist and not having at his command the resources of the exhaustive files of a large oil company, may have omitted from the present article certain few holes in Southwest Texas deeper than 5000 feet. If such omission has been made, he would be grateful to receive information concerning tests exceeding 5000 feet other than those listed in this paper.

Precisely to define the limits of "Southwest Texas" is difficult. In general, Southwest Texas may be said to include that area bounded on the south and southwest by the Rio Grande and the Republic of Mexico; on the west by the Del Rio region; on the north by the Central Mineral or Llano-Burnet Uplift and the country adjacent to Austin; on the northeast by a line from the Austin area to the Gulf; and on the east by the Gulf of Mexico. This vast territory, roughly triangular in shape, includes about 80,000 square miles.

In this extensive region of Southwest Texas, approximately equivalent in area to Kansas, and almost twice as large as Pennsylvania, but twenty holes have been drilled below 5000 feet. It is evident that the deep oil and gas possibilities of Southwest Texas have merely been scratched. The few really deep holes drilled have, however, served to reveal geological and production information as a guide to future drilling, and to teach operators the method of drilling technique required to penetrate the deeply buried sediments of Southwest Texas.



Separation

In two stages may in many cases reduce the operating costs by allowing delivery of the high pressure gas directly to plants operating under pressure, thereby eliminating booster plants. The Secondary separator insures the recovery of the gas and vapor that may remain in the oil after the high pressure separation.

Trumble Gas Trap Company

756 Subway Terminal Building
LOS ANGELES, CALIF.

ALBERTA, WYOMING and MONTANA
Great Northern Tool & Supply Co.
Billings, Montana

VENEZUELAN REPRESENTATIVE
Johnson & Schnitter
Apartado 324
Maracaibo, Venezuela

first— we'll agree on this—

YOU have a drive that gives trouble at the coupling. What's the reason? Why should flexible couplings be on the "replacement list?"

You know the answer. For generations coupling builders worked on the theory that a coupling *must* depend on flexible materials for flexibility. Then Fast came along with the *mechanical* coupling and it became possible to make coupling failures in your plant as rare as the dodo bird.

HOW IT WORKS

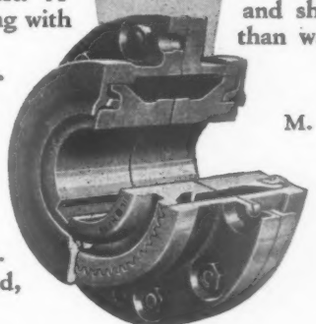
Why? Simply because the Fast design eliminated the trouble-maker in coupling practice. Flexible materials were done away with and a new principle brought into use—mechanical flexibility.

The scheme is simple *(see the little diagram below)*. A spur gear on the end of the driving shaft. A spur gear on the end of the driven shaft. A hollow sleeve with internal gear teeth meshing with the two spur gears. And there you are!

One shaft revolves—the other revolves. The sleeve, which transmits the power, takes a neutral position. Misalignment between the shafts is taken up between the lubricated faces of the spur gears and the internal gears of the floating sleeve.

Best of all, it changes the flexible coupling from something to be watched, to something to be forgotten. Merely keep it oiled, the same as you oil any other piece of transmission equipment, and it will last as long as the connected machines. No springs, no rings, no laminated pins, bushings, discs or grids. Nothing subject to continual bending or compression. Nothing but two spur gears lubricated by the oil distributed in the revolving of the sleeve.

Eliminate flexible materials and the Flexible Coupling becomes 99% trouble proof



ELIMINATE SHUT-DOWNS

Does it happen in your plant?—A coupling goes bad and one or a dozen units have to stop. The cost of delay, lost production and disorganized operation, would usually pay for the coupling ten times over.

Why wait till trouble comes? Write to The Bartlett Hayward Company, giving the facts on the drive: Type of service, kinds of driving and driven machines, H. P., R. P. M., shaft diameters. We can then give you price on the new coupling and show you that the cost is no doubt far less than waiting till you *must* shut down.

Oil Field Sales Representatives:

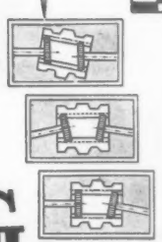
HOUSTON
M. N. Dannenbaum

LOS ANGELES
Thomas Machinery Co.

Get this authoritative book which clearly shows how flexible materials can be avoided in coupling design.

FAST'S *Self-Aligning* COUPLING

The coupling without flexible bushings, pins, springs, discs, grids or any other flexible materials.



Two spur gears, meshed with the internal gears of a floating sleeve. Coupling revolves as one unit, misalignment being taken up between the lubricated teeth.

GET FREE BOOK

THE BARTLETT HAYWARD COMPANY
217 Scott Street, Baltimore, Md.

Please send me the free book by Prof. Moore on "What Happens in Couplings."

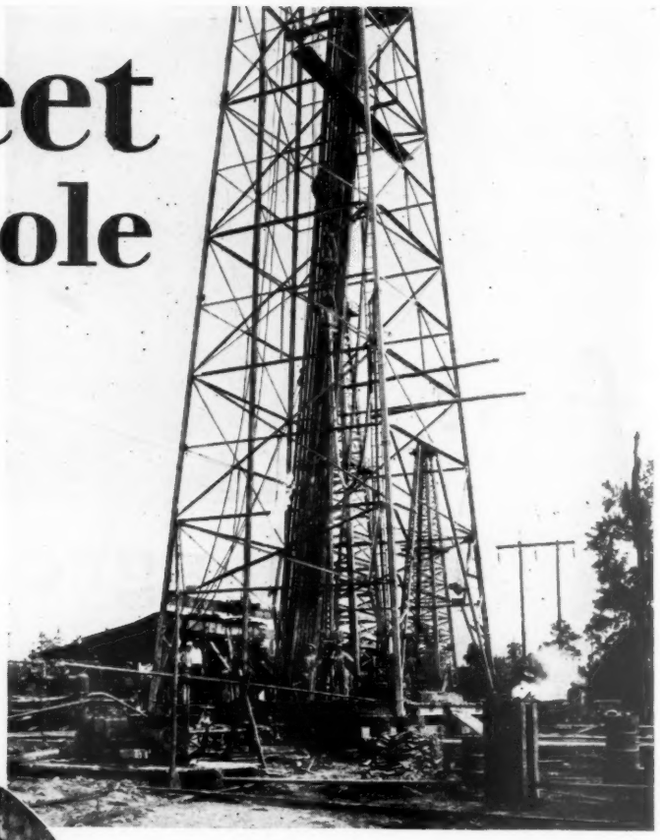
*Name*_____

*Firm*_____

*Address*_____

4907 Feet in Second Hole

....and this Yellow Strand Line is Still Going Strong



Visit us at the International Petroleum Exposition, Oct. 5 to 12; Booth 80, Oklahoma Building.

AFTER this 1-inch Yellow Strand Rotary Line had finished one deep well for the Texas Company, they put her on their Landslide No. 262, Humble, Texas. At 4907 feet, when photo was taken, the line was still in good working condition.

Records like this have come to be *expected* of Yellow Strand. It is made of pure Swedish stock, the wire being drawn strictly to our specifications by famous, old established firms. In 53 years of rope making we have never met its equal for elasticity, combined with unusual wearing qualities and great strength. No wonder Yellow Strand survives hard usage.

Make no mistake. There *is* a difference between ordinary improved plow steel and Yellow Strand. Regardless of price, Yellow Strand Rotary Lines *cost less.*

Distributors of Yellow Strand and other B & B Drilling, Pumping and Sand Lines in all fields.

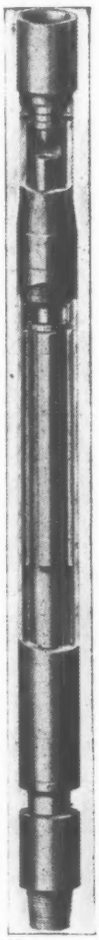
Ask for Catalog 4

BRODERICK & BASCOM ROPE CO.
ST. LOUIS, MO.
Factories: St. Louis and Seattle

Yellow Strand Rotary Drilling Lines

NR694

NEW EQUIPMENT, CATALOGS, BULLETINS, BOOKS



Alco automatic weight control

Automatic Weight Control

ALCO OIL TOOL COMPANY

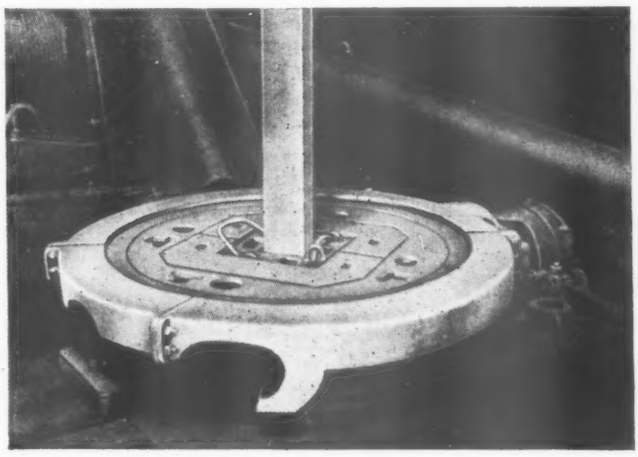
A new development of Alco Oil Tool Company, Compton, California, is the automatic weight control. This tool was designed primarily to furnish a means of feeding out drill pipe foot-by-foot, yet maintaining a definite amount of weight on the bit at all times.

It is placed at the lower end of the drilling string, and so spaced above the bit that the weight of the drill pipe below the control offsets the weight desired on the bit. This feature according to Alco engineers, results in a straighter hole.

The tool is simply constructed, having only two moving parts, the mandrel and the body. Splines on the mandrel or inner portion, interlock with splines in the body of outer portion, and carry the torque load of the rotary motion. The mandrel travels up or down within the body about 20 inches, providing the basic operating feature of the tool.

The Alco rotary table guard has been recently placed on the market. According to the makers, this device is proving its value as a safety measure. It is simply constructed and may be quickly installed or dismounted. It is made in all sizes to fit over all makes of rotary tables.

The new Alco general catalog is just off the press. A copy will be mailed upon request.

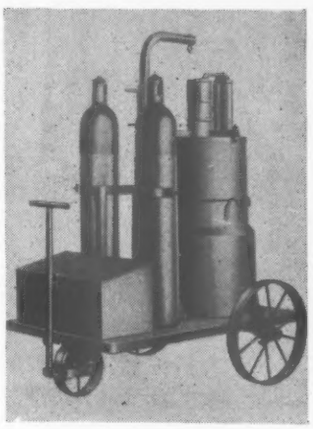


Alco Rotary Table Guard

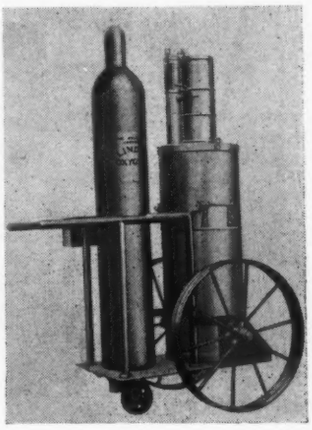
Bullard-Davis, Inc., joint distributors with the Union Carbide Sales Company of the UCC Combustible Gas Indicator, announce that the Indicator is in full production and immediate deliveries are assured.

Many leading oil companies, public utilities and other industrial companies concerned with combustible gases, are using UCC Combustible Gas Indicators.

Bullard-Davis offices are in New York, Chicago, Atlanta, Tulsa, San Francisco, Los Angeles and Salt Lake City.



Truck for Model CLP-3



Truck for Model CLP-2

Carbide Generator Trucks

OXWELD ACETYLENE COMPANY

The Oxweld Acetylene Company, 30 E. 42nd Street, New York City, has recently introduced two new types of trucks to accommodate type CLP-3 and type CLP-2 carbic low-pressure acetylene generators, respectively.

The truck designed to carry a CLP-3 carbic generator also carries two cylinders of oxygen. It is oxy-acetylene welded. Two large wheels carry the back part of the truck; a third wheel, in the front, is of the castor type and allows the truck to be turned in a radius about equal to its own length. The generator is secured to the steel deck of the truck by means of angle iron braces and two long bolts which are inserted in the handles of the generator and tightened by means of turnbuckles.

The truck is provided with a steel tool box with loop fastenings. This box can be used for wrenches, small tools, or for a welding or cutting outfit. The oxygen cylinders are chained to a steel rack which is fastened to the deck of the truck beside the generator. A crane is provided to be used in charging and emptying the generator. This crane can be used to lift the gas-bell out of the generator. The water and residue can then be drained off through the outlet at the bottom. The crane jib is made in three sections which can be telescoped when not in use to decrease the height. The truck has two 24-inch steel wheels with three-inch tires, and a castor wheel which is 12-inches in diameter by two-inches. All wheels are provided with grease cups for lubrication.

The smaller truck will accommodate one cylinder of oxygen in addition to the type CLP-2 carbic generator. It is designed for portability. There are two 24-inch steel wheels and one five-inch castor wheel operating on a roller bearing. All wheels are provided with grease cups for lubrication.

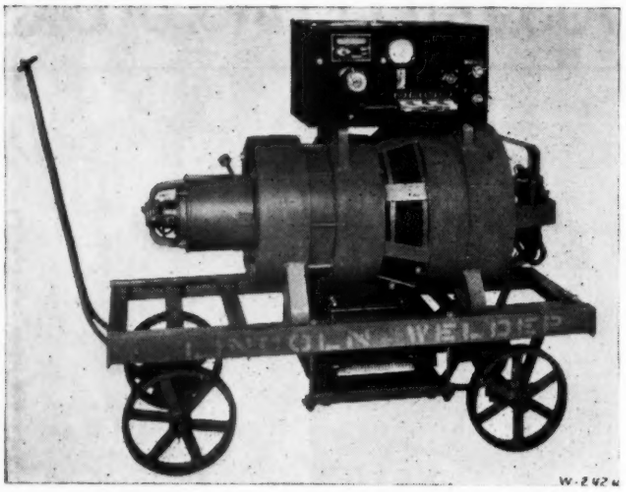
Improved "Stable-Arc" Welders

LINCOLN ELECTRIC COMPANY

New improved Lincoln stable arc welders, manufactured by the Lincoln Electric Company, Cleveland, have recently been placed on the market, and new features of design and construction increasing the stable arc features are introduced.

Controls of motor and generator are unified and the working mechanism of all controls are contained in a ventilated, enclosed steel cabinet with hand regulators and switches mounted on a panel which forms a side of the cabinet. The control panel contains rheostat regulator, diverter switch, safety starter

XUM



300 Ampere Portable Welder for alternating current

switch, volt-ammeter and wing nut terminals for cables. This unified control increases the simplicity of the operation of the welder. The control cabinet is mounted directly over the motor generator for easy access by the operator. This also permits the removal of the motor generator armature, without disturbing any other parts.

Use of a combined voltmeter and ammeter, known as a volt-ammeter, makes possible the reading of amount of voltage and amperage on one dial and eliminates the use of the separate delicate ammeter which would be given excessive wear on a Lincoln welder, due to the large output keeping the ammeter jammed against the high limit pin on the dial. In this way, the volt-ammeter insures longer instrument life.

Terminals for the lead cables are equipped with winged nuts, a feature which makes quick and easy connections possible, especially when it is desired to reverse the polarity of welding current. The use of these wing nut terminals also eliminates the necessity of a switch for reversing polarity.

The Lincoln safety push button switch is incorporated in the control panel for starting and stopping of the welder. This new type switch, manufactured by Lincoln Electric Company and introduced to the market only a short time ago, offers an added safety feature to the control mechanism of the new model welder.

Enclosed wiring of all operating controls as well as a metal backed rheostat are the result of the use of a unified control cabinet. The mounting of this cabinet over the motor generator permits the use of a shorter chassis frame or base than used in previous models.

Norvell-Wilder Houston Store

L. C. "Lew" Klein, formerly vice president and manager of the Continental Well Supply Company, Inc., of New York, has resigned to become vice president of the American Steel Export Company, with offices at 535 Fifth Avenue, New York City.

L. C. KLEIN

James C. Fortune, who spent a number of years representing several major companies in Mexico, is temporarily located at Turner Valley, Ontario, with Sheldon Machinery Corporation.

WALTER HODGES

Walter Hodges has recently joined the National Tool & Metals, Inc., of Torrance, California, and will serve as field representative in the Los Angeles Basin field. He has many years of field service to his credit in California, having formerly represented U. S. Tool Company, Oil Well Core Drilling Company and the H. C. Smith Manufacturing Company.

W. H. Arnold, formerly assistant sales manager of the Pittsburgh Valve, Foundry & Construction Company, has recently been appointed sales manager, succeeding C. A. Anderson, Jr., who became president of the company March 1.

HARRISBURG PIPE BOOKLET

Harrisburg Pipe & Pipe Bending Company, Harrisburg, Pennsylvania, has issued a pocket-size booklet entitled "From Ingot to Finished Product," each process controlled by the company. Illustrated descriptions are given of the company's forged seamless steel cylinders, couplings, coils and bends, drop forgings, pump liners, bull plugs, spring steel standard gauges, billets in carbons and alloys, channels and angles for plastering and the Harrisburg feed water heater. Blank sheets for memorandum following each description makes this booklet more of a handy sheet. It may be secured upon request to the company.

TORCHWELD BULLETIN

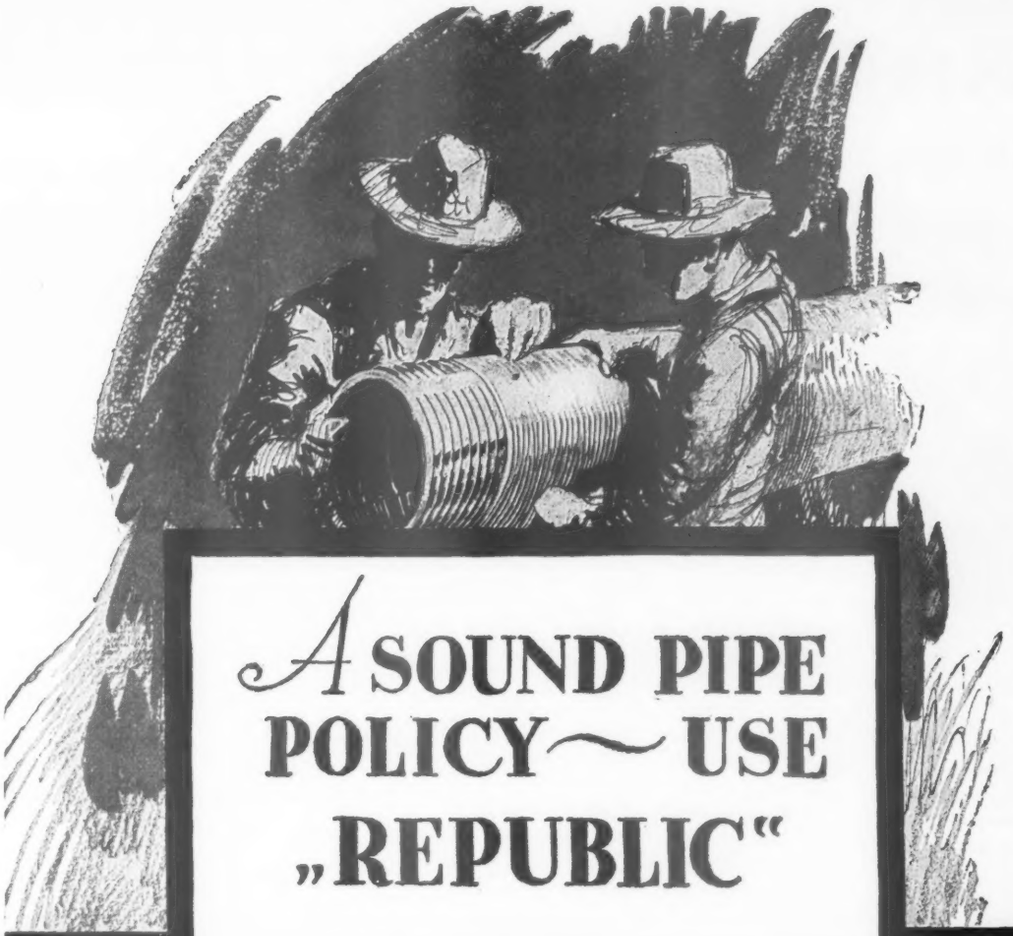
Torchweld Equipment Company, 224 North Carpenter Street, Chicago, recently issued Catalog No. 29, an 8½ x 11-inch, 40 pages, covering the complete Torchweld line. Cross sectional views are carried of gas welding and cutting, lead welding, soldering, brazing and decarbonizing equipment, automatic and hand welding and cutting machines and torches, gas pressure regulators, acetylene generators and welding supplies.

OPEN NEW BUILDING

Norvell-Wilder Supply Company's new Houston home, shown here, was opened July 16, at 1302 Maury Street. Frank Corothers, general manager, represented the company as host to several hundred guests at a formal opening dinner.

The new Houston store is fire-proof throughout and has a floor layout to give the many different lines of oil field equipment a separate department. Space for trucking service to the fields is provided on one side of the building, for city delivery on another side, while a third side is served directly by the Southern Pacific Railroad. The stocks, including every line of rotary drilling and production equipment, is so arranged as to permit immediate service at all times.

Other distribution points of Norvell-Wilder Supply Company are located at Shreveport, Ft. Worth and Beaumont.



A SOUND PIPE POLICY—USE „REPUBLIC"

It's a safe, sound and economic policy to standardize on Republic tubular goods in the oil and gas fields.

The name Republic on steel pipe and casing guarantees uniformity, high quality of material, clean threads well protected, and general excellence of workmanship.

Adherence to rigid standard specifications backed by a rigorous system of tests and inspections makes it practically impossible for inferior products to pass to the market from Republic mills.

Thus, Republic gives *you* the most protection by protecting itself. Use Republic pipe and casing for constant satisfaction.

PRODUCTS

Tubing
Casing
Line and
Rotary Drill
Pipe

Branch Offices

Birmingham, Boston, Buffalo, Chicago, Cincinnati, Cleveland, Dallas, Denver, Detroit, El Paso, Los Angeles, New York, Philadelphia, Pittsburgh, San Francisco, Seattle, St. Louis

REPUBLIC
IRON & STEEL CO. YOUNGSTOWN O.
PIPE & CASING

IRONSIDES
Belt always makes good on tough, hard drives

QUAKER CITY RUBBER CO. IRONSIDES A P I SPECIFICATIONS PHILADELPHIA SAN FRANCISCO

EVERY engineer knows what belting has to face in oil field operations—heavy loads, shifting loads, sudden racking strains. The oil man is interested only in getting the job done, and he wants the best tools to work with he can get his hands on.

Belting troubles can be settled for all time with Quaker Rubber Belts. They are built for the punishing service of oil field drills and pumps.

Quaker Belts fully meet the demands of the A. P. I. specifications, and won't shirk the hardest drive.

IRONSIDES Brand is made specially for this kind of work, and it represents our idea of the best, the most durable and reliable belt for oil field duty.

Our nearest distributor will fill your order promptly.

When it comes to carrying the load day after day, with minimum shut downs for repairs, IRONSIDES will meet any requirements.

Quaker City Rubber Co.

Manufacturers of the most complete line of mechanical rubber goods for the oil fields.

Main offices and factories
WISSINOMING PHILADELPHIA

Branches:
New York Chicago
Pittsburgh San Francisco

Squeaks from the Bull Wheel

Papa, vat is science?

My, how could you be so dumb! Science is dose things vat says, "No Smoking."

I saw your husband at the masquerade ball chasing after a hula-hula dancer in a grass skirt.

Why, the old rake!

"Papa, you can just bet grandma is awfully strong."

"How so?"

"Yes, sir, in just one jerk of her bare fingers she can pull her teeth out."

"How would you like to have a hop in my airplane?"

"No, sah. Ah stays on terrah firmah; an' de more firmah, de less terrah."

"This dining room table goes back to Louis Fourteenth."

"That's nothing. My whole sitting room suite goes back to Stacy's on the fifteenth."

"Abie, how's business?"

"Oi, terrible! Even dose vot don't pay ain't buying nothing!"

Her lips quivered as they approached mine. My whole frame trembled as I looked in her eyes. Her body shook with intensity as our lips met, and I could feel my chest heaving, my chin vibrating, and my body shuddering as I held her to me.

The moral of all this is: Never kiss them in a flivver with the motor going. —Kreolite News.

A certain convivial young chap dealt and bid a no trump; all passed. Dummy put his hand down and remarked:

"Well, I can imagine what you bid no trump on when I have three aces and four kings."

"Well, if you want to know," the dealer said, "I bid it on one jack with two queens and three cocktails."

Rastus had been arrested for speeding. It was his fifth offense and as he was presented to the Judge, he muttered something under his breath that sounded suspiciously like an oath.

"Repeat that," thundered the judge.

"Ah didn't say nothin', Jedge."

"You did say something and I want you to repeat it."

"Well, all Ah says, Jedge, was: God am de Jedge, God am de Jedge."

The teacher of a rural school one day received the following note, which might easily pass for an example of concisness in writing:

"Please excuse Willie from school today. He caught a skunk."

SMOKE RINGS

Bad men
Want their women
To be like cigarettes—
In a case.
Just so many, all slender and trim,
Waiting in a row
To be selected, set aflame, and
When their fire has died,
Discarded.

More fastidious men
Prefer women
Like cigars;
These are more exclusive,
Look better, and last longer.
If the brand is good,
They aren't given away!

Nice men
Treat women
Like pipes,
And become more attached to them,
The older they grow!
They still look after them,
Knock them gently
(But Lovingly)
And care for them always.
No man shares his pipe!

Gosh, but I'm thirsty!

Just a minute and I'll get you some water.

"I said thirsty, not dirty."

Sunday School Teacher—My word, doesn't that little boy swear terribly?

Back Slider—Yes'm, he sure do. He knows the words, but he don't put no expression in them.

Parson: "Surely you have not caught these today?"

Sonny: "Yes, that's what happens to fishes that goes chasin' worms on Sunday."

Mrs. Mosquito: "Where is your daughter?"

Mrs. Housefly: "She just went to the front door for a screen test."

"I despise hypocrites. Take Smithson, for example; he's the biggest hypocrit on earth."

"But you appear to be his best friend."

"Oh, yes; I try to appear friendly toward him. It pays better in the end."

They had just met at Atlantic City and were sitting on the beach.

She: "What a wonderfully developed arm you have."

He: "Yes, I got that playing basketball. By the way, were you ever on a track team?"

After you strike pay sand *then what?*

AFTER you sink the drill into the pay sand, then the big job is to get the crude out economically and efficiently.

That's just the job the G-E Type MTO two-speed pumping motor was made to do.

It completely fills all the power needs of a producer—pumping, pulling, bailing, cleaning, and even pulling casing and redrilling when necessary. And it does each job cheaply and without loss of time.

When a motor performs like that—and reliably, too—it is easy to understand why many operators install the Type MTO when they hit pay sand. That's why 6000 units, totaling 250,000 horsepower, are in use to-day.

General Electric supplies complete electric equipment to the oil industry. With warehouse facilities close to your operations, G.E. readily furnishes motors, controllers, transformers, arresters and other protective devices, capacitors for power-factor improvement, switching equipment, etc.

G-E oil field specialists and G-E service at: Dallas, Denver, Houston, Kansas City, Oklahoma City, Tulsa, Los Angeles, San Francisco.

200-273

JOIN US IN THE GENERAL ELECTRIC HOUR, BROADCAST EVERY SATURDAY AT 8 P.M., E.S.T. ON A NATION-WIDE N.B.C. NETWORK

GENERAL ELECTRIC

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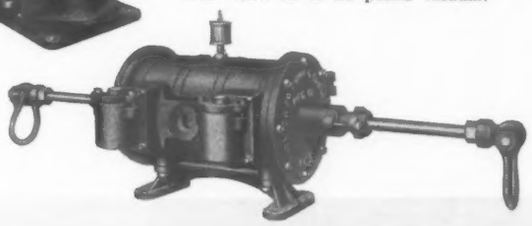
There is a GASO Pump for every purpose using any available power

GASO WALKING BEAM PUMP No. 601, *For Oil or Water,* is adapted for use on leases where no pumping power is available, connecting direct to the beam by means of wood or pipe pitman. Has an extra long stroke and can be set for straight line pull. For 400 to 600 pound working pressures.

GASO WALKING BEAM AND POWER PUMPS Nos. 604 and 604½, *For Gas or Vacuum,* are used in taking the gas from pumping wells or to put vacuum on the wells. Connect to the walking beam with wood or pipe pitman, or to the power or surface rods on a pumping well. Give 26 to 28 points vacuum.



As Oil Industry pump specialists, we offer a *complete* line of pumps designed specifically for super service under the exacting conditions encountered in the Industry.

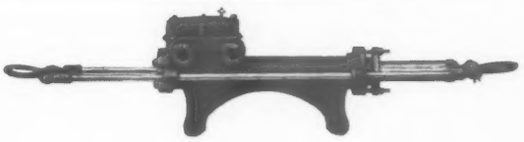
The smaller GASO Pumps, for lease and general service, combine correct design, sturdy construction and expert workmanship in a manner which insures efficient performance, long life and low maintenance cost.

GASO PUMP & BURNER MFG. COMPANY

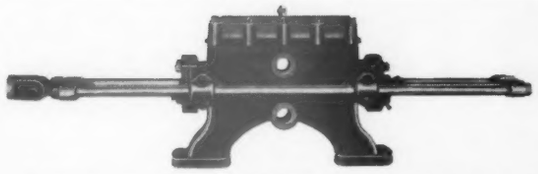
Tulsa, Okla., U. S. A.

210 Petroleum Bldg., Fort Worth, Texas

535 Fifth Avenue, New York, N. Y.



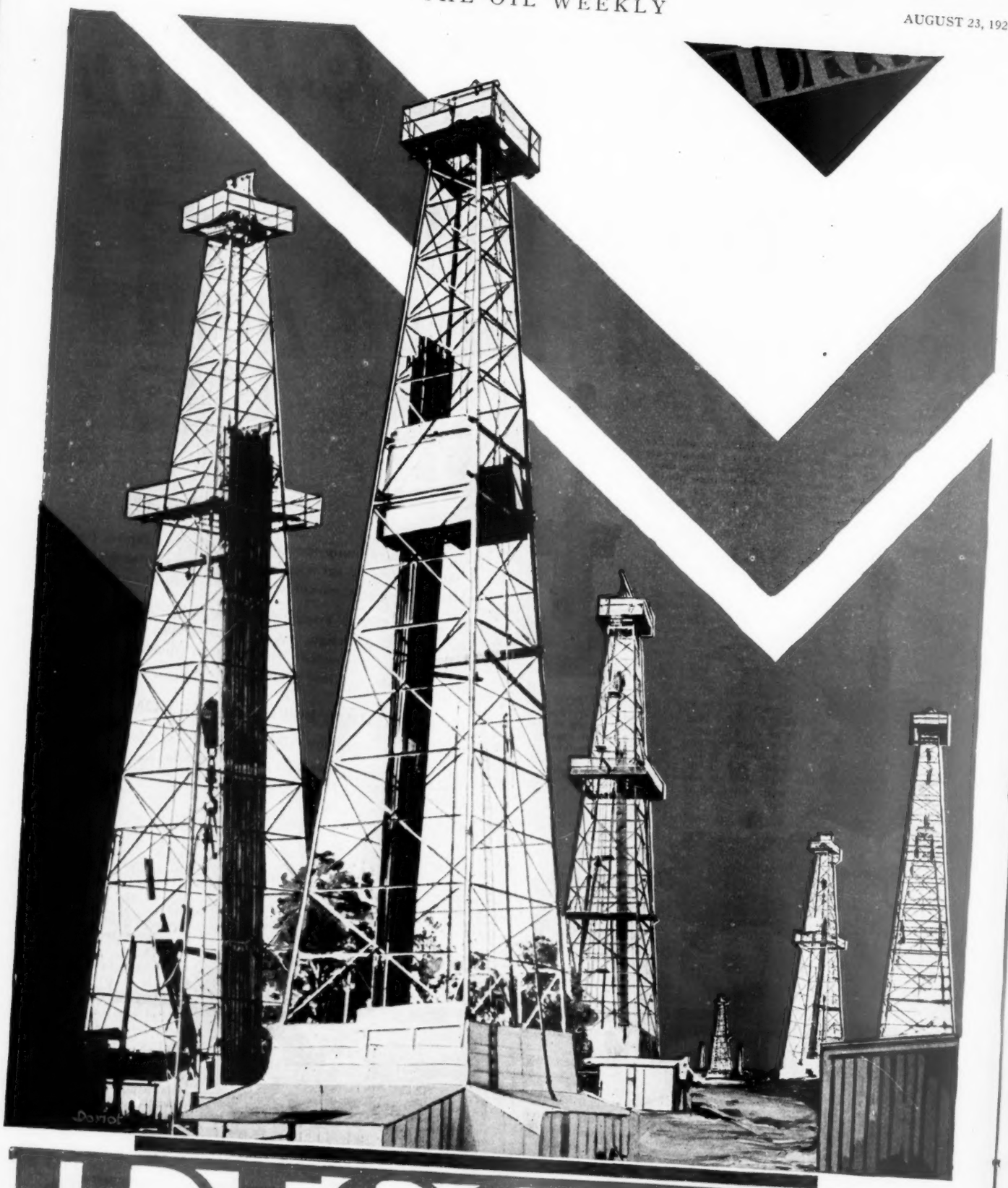
GASO RODLINE PUMP No. 201 is a simple, easily operated pump for general service. It is used in connection with the rod or shackle line between the power and well, or connected to the power direct with a pitman.



GASO PISTON POWER PUMP No. 301 (Jerker Pattern) is designed for the high pressure of main pipe lines, usually above 600 pounds, and is equally suitable for lease service, or any other low pressure work around refineries or pipe line stations where push and pull or crank power can be utilized. 750 to 300 pounds working pressure.

GASO PUMPS

for every oil industry need



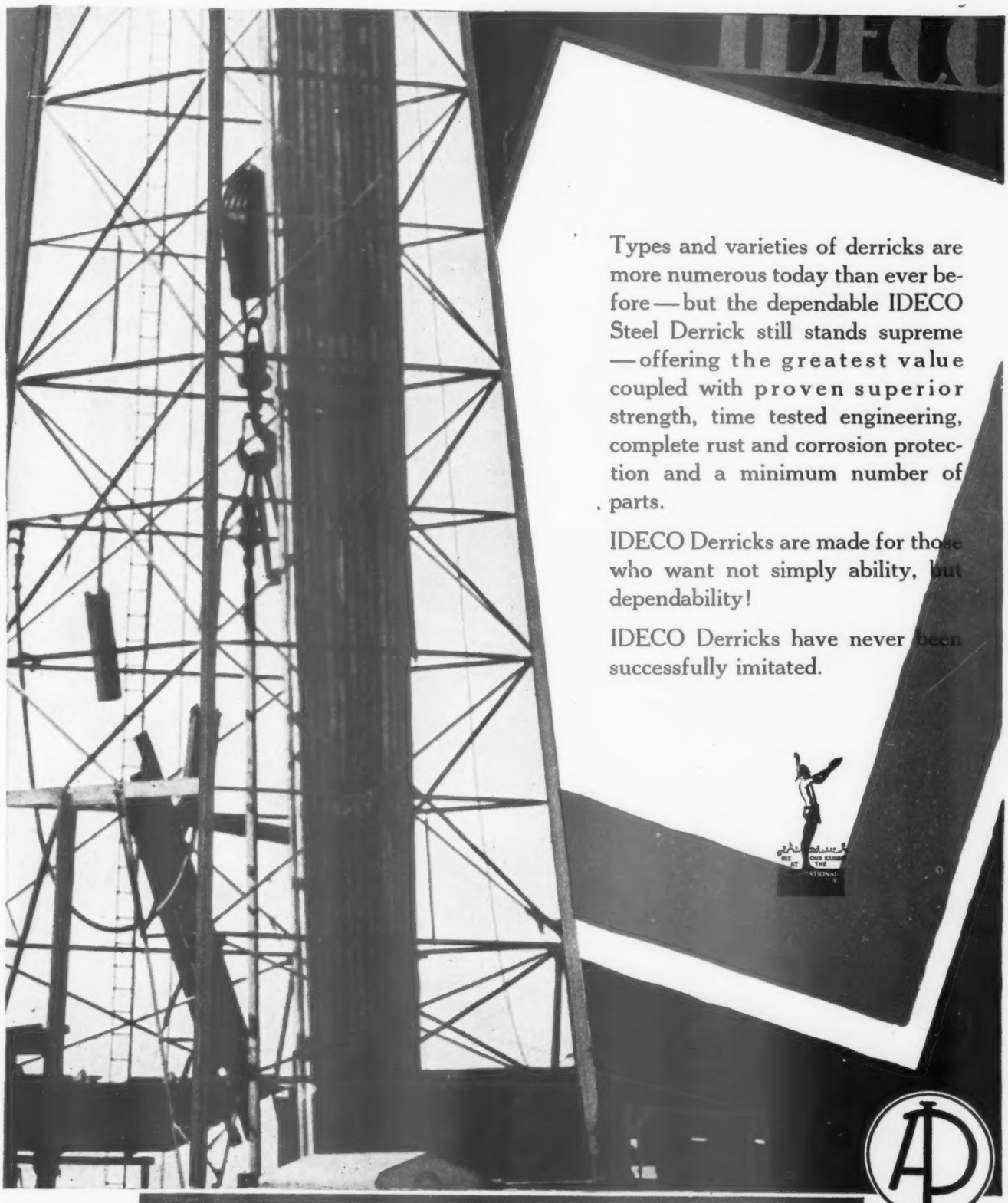
IDECO

(GALVANIZED)
STEEL

The International Derrick & Equipment Company

Columbus, Ohio

Los Angeles, Cal.



Types and varieties of derricks are more numerous today than ever before—but the dependable IDECO Steel Derrick still stands supreme—offering the greatest value coupled with proven superior strength, time tested engineering, complete rust and corrosion protection and a minimum number of parts.

IDECO Derricks are made for those who want not simply ability, but dependability!

IDECO Derricks have never been successfully imitated.

DERRICKS

Plants: Columbus, Delaware, Ohio; Houston, Beaumont, Texas; Torrance, California. *Sales Offices:* Columbus, Ohio; New York City, N. Y.; Detroit, Michigan; Tulsa, Oklahoma; Ft. Worth, Houston, Texas; Shreveport, Louisiana; Wichita, Kansas; Los Angeles, California; Maracaibo, Venezuela. *Warehouses and Yards:* Columbus, Ohio; Tulsa, Seminole, Tonkawa, Drumright, Okemah, Wewoka, Maud, Sasakwa, Allen, Oklahoma City, Oklahoma; El Dorado, Wichita Heights, Kansas; Bakersfield, Taft, Torrance, California; Houston, Big Springs, Odessa, Pyote, Pampa, Borger, Mexia, Luling, Texas; Shreveport, Lake Charles, Louisiana; El Dorado, Smackover, Arkansas.

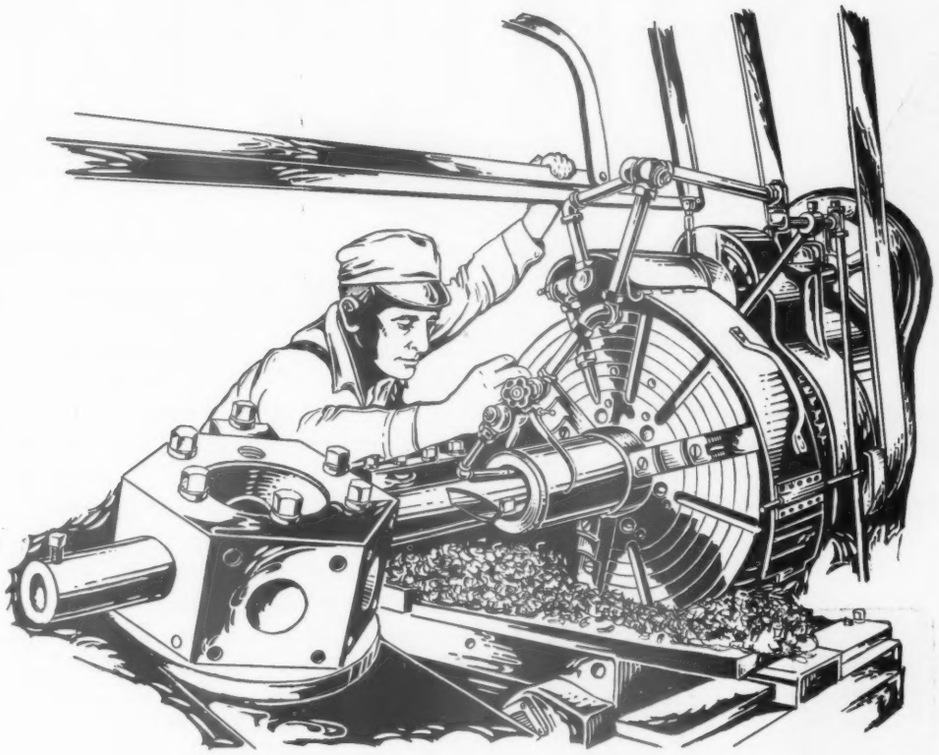
Export Representation: 72 Trinity Place, New York City; Columbus, Ohio; Houston, Texas; Los Angeles, California.

IDEAL
AL-OY
STEEL
SPROCKET CHAIN

THE
NATIONAL SUPPLY
COMPANIES

FOR GREATER STRENGTH

FORGINGS BY WESTERN FORGING COMPANY Los Angeles, Calif.



Elaborate Shop Equipment and most Advanced Methods used in Machining

EMSCO PRESS FORGED TOOL JOINTS

Extruded forgings are machined with elaborate lathe equipment to A.P.I. standard gauges, unless otherwise specified by customer. After each machining operation the joints are carefully inspected. Each step is held to the closest possible limits, even beyond those recommended by the American Petroleum Institute.

EMSCO D+B EQUIPMENT — Protected by Steel — LOS ANGELES, CALIFORNIA — HOUSTON, TEXAS; DALLAS, TEXAS — EXPORT OFFICE: 120 BROADWAY NEW YORK CITY, N.Y. U.S.A.

All Emsco and D+B Products (Except Derricks) Sold Exclusively in Mid-Continent Fields by The Continental Supply Company

EMSCO STEEL EQUIPPED WELLS ARE SAFE

This is the fifth of a series of advertisements featuring the Emsco *process of manufacture of Tool Joints*

FISHING TOOLS
DRILLING TOOLS

AMERICAN IRON & MACHINE WORKS CO. · OKLAHOMA CITY ·

AMERICAN MILLING SHOES

Interchangeable with Standard Guide

TYPE "D"

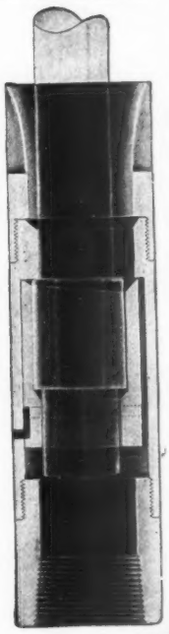
TYPE "E"

TYPE "F"

ANNOUNCING A NEW FISHING TOOL

The American Iron & Machine Works Company are offering the Oil Industry a new Overshot—The American Eccentric Releasing Overshot (see illustration at right). This tool operates without springs, dogs, or slips, using an eccentric sleeve inside the body that makes the pickup. It can be used on any size of drill pipe by using corresponding sleeve. The Guide is removable and interchangeable with the American Milling Shoes or Wall Hook.

AMERICAN ECCENTRIC RELEASING OVERSHOT



OPERATION

To catch get the overshot down over the tool joint or coupling snugly, then turn with the tongs one-half turn to the right. The sleeve will engage either the tool joint or coupling.

To release let pipe down slowly turning fishing string to the left with tongs.

Look over the American Tools listed below. They are carried by leading supply companies. Descriptive folder on any tool listed below sent on request.

AMERICAN IRON AND MACHINE WORKS CO.

Manufacturers of Oil Field Equipment

OKLAHOMA CITY, OKLAHOMA

American Releasing and Circulating Overshots
American Rock Bit Wrenches
American Milling Shoes
American Flexible Coupling for Rock Bit Lubricators
American Steel Tool Houses
American Forged Steel Wall Hooks
American Rock Bit Breakout Blocks
American Paraffin Bits
American Female Die Nipples

AMERICAN OIL FIELD EQUIPMENT

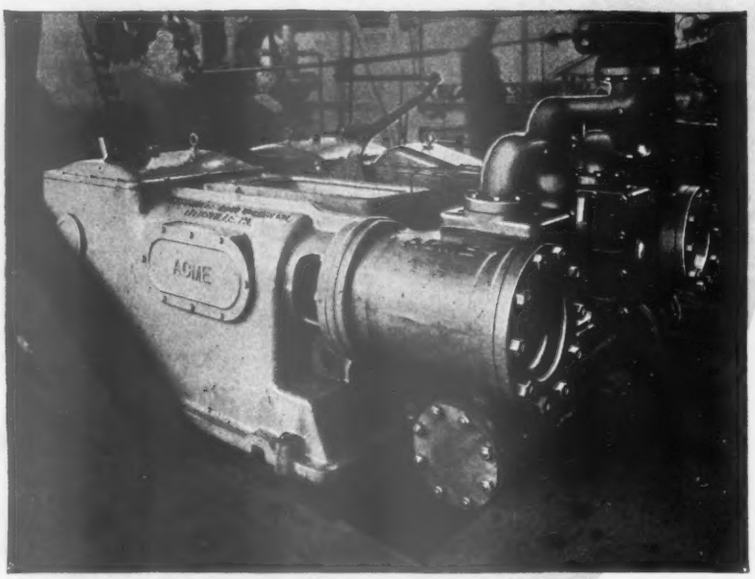
American Tapered Taps
American Forged Steel Subs
American Rotary Shoes
American Cone Fishing Baskets
American Steam Lubricators
American Side Tracking Mills
American Combination Reverse and Throttle Levers
American Rock Bit Lubricator
Wash Pipe Attachments

American Rotary Milling Tools
American Myracle Sucker Rod Sockets
American Surface Bit Blades for Rock Bits
American Drill Pipe Float Joints
American Pump Manifold Check Valves
American Eccentric Releasing Overshot
American Casing Suspension and Blowout Preventer
American Lead Plug
American Rock Bit Cone Fishing Sockets

"EVERYTHING ...an ENGINE ought to be"

IN these days you have a right to expect more from a drilling engine. But you cannot look for it in units of antiquated design. Your new engines should be as modern as your 1929 motor car. Wherefore you will want to know all about.

TITUSVILLE OIL COUNTRY MACHINERY
BUILT WITH RESERVE RUGGEDNESS



THE NEW
Acme Twin-Cylinder Engine

with Timken bearing crankshaft and totally enclosed crankcase.

Specification details on request.

THE TITUSVILLE IRON WORKS CO.
Division of Struthers-Wells Titusville Corp.
TITUSVILLE, PA.

For Export
The Continental Well Supply Co.
72-76 Trinity Court,
New York City, N. Y.

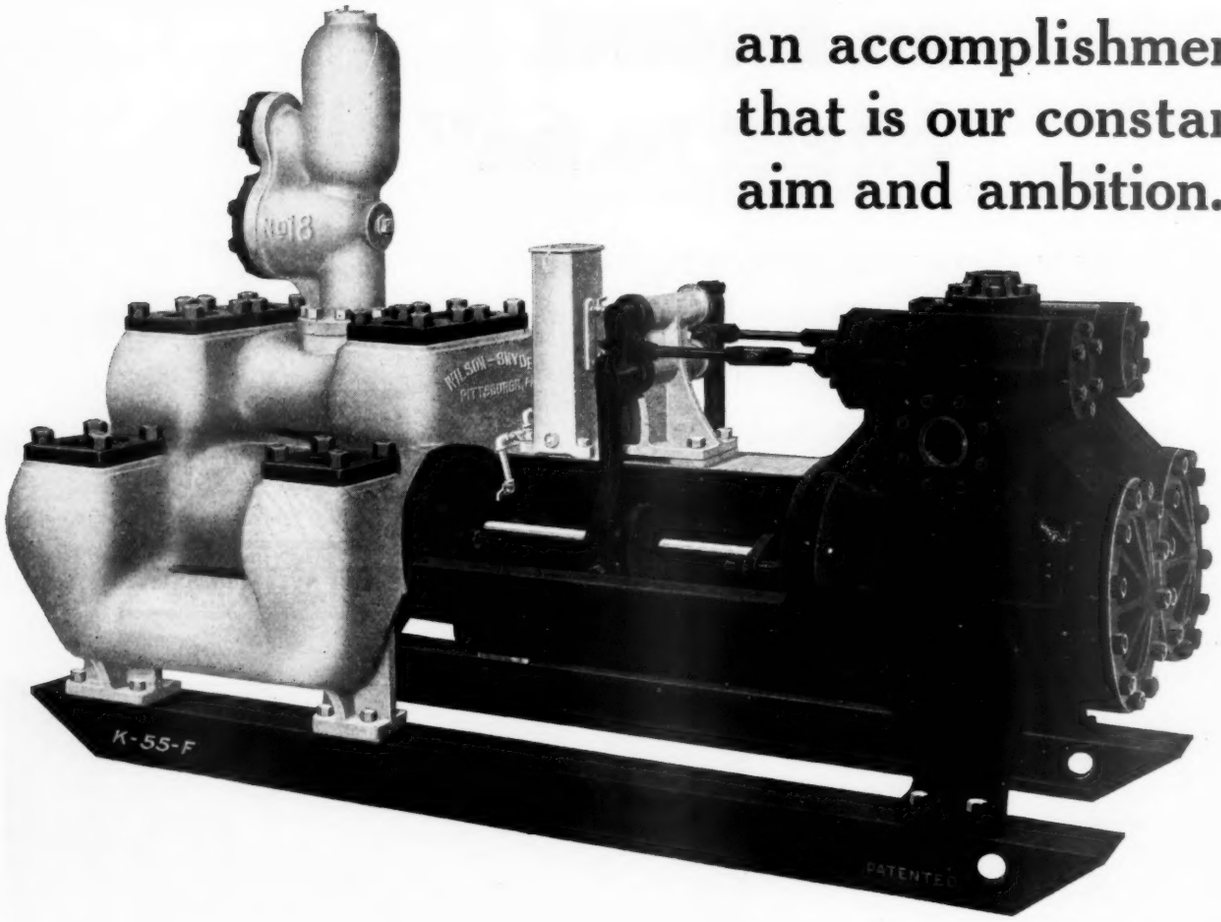
Distributors
The Continental Supply Co.

For California
California Machinery Supply Co.
2449-55 Hunter St.,
Los Angeles, Calif.

TITUSVILLE
ROLLER BEARING STEAM ENGINES

Building a better Slush Pump—

an accomplishment that is our constant aim and ambition.



W-S No. 18 now has many additional features for lowering drilling costs

WILSON-SNYDER

BUILDERS OF HEAVY DUTY PUMPS FOR OVER FIFTY YEARS

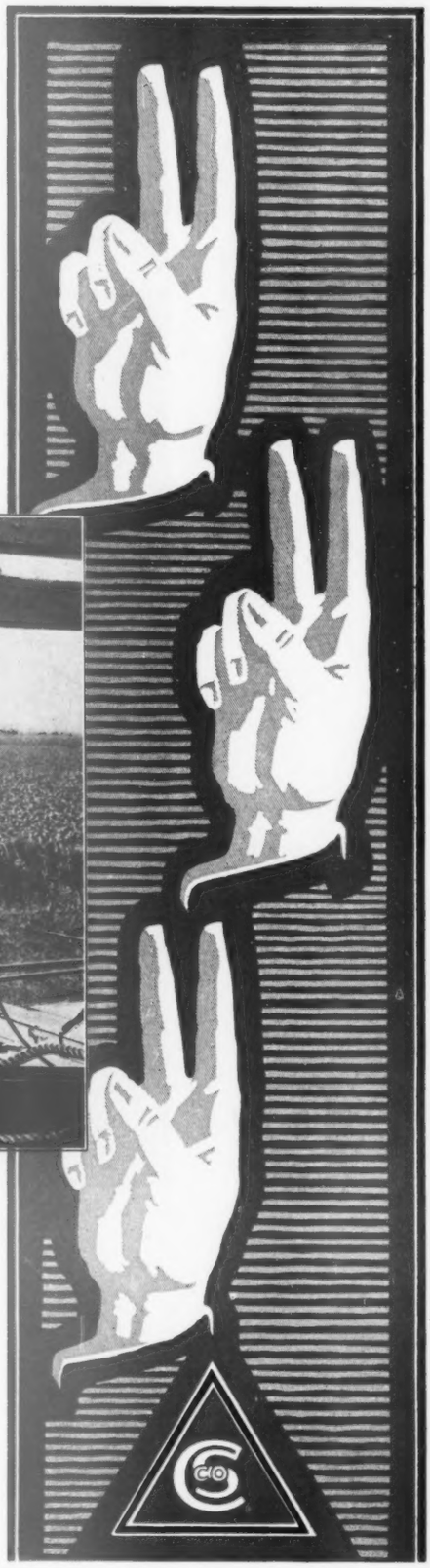
PITTSBURGH, PA U.S.A.

4 SPEED EMSCO DRAW WORKS

TYPE "HRB"

TWO WITHIN 30 DAYS

"SMITH LIKES THEM"



The first machine purchased by Harvey S. Smith Inc. of Houston performed so well that they bought another for use on Smith's Esperson Dome property. Both these machines are the Type "HRB". The one pictured above is the latest installed, and is the most advanced type for deep well drilling and heavy duty where extra service from wire lines is essential. F. P. Hayes is the driller in the picture.

"If Continental Sells It . . . There Is No Better"

THE CONTINENTAL SUPPLY COMPANY

General Offices: St. Louis

INTERNATIONAL EXPOSITION

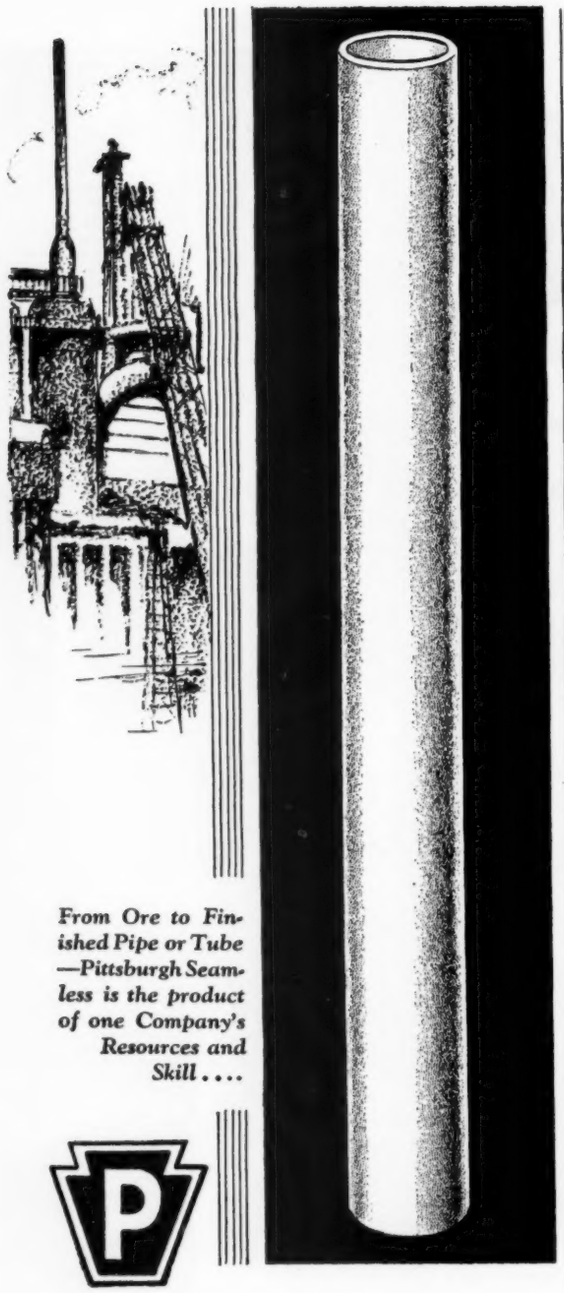
THE CONTINENTAL SUPPLY COMPANY Ltd.

224 Traders Bldg., Calgary, Alberta, Canada

Protected by Steel

EMSCO EQUIPMENT

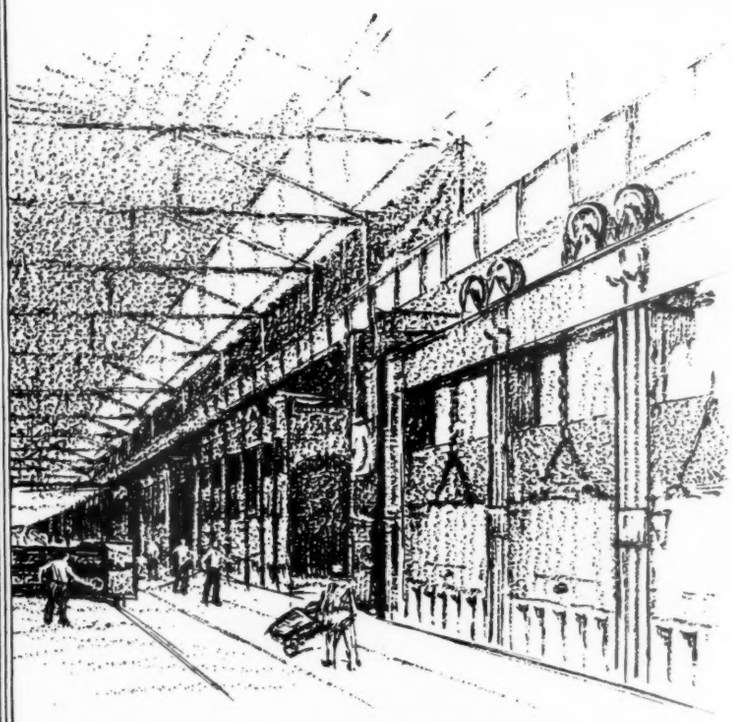
CONTINENTAL



From Ore to Finished Pipe or Tube —Pittsburgh Seamless is the product of one Company's Resources and Skill....

Casing
Oil Well Tubing
Drill Pipe
Line Pipe

Sizes ½" to 14" O.D., *Lengths up to 45 feet,* depending on Size and Wall Thickness.



TUBE ROUNDS are *"made"* in the FURNACE

The most modern of blast furnaces and open-hearth furnaces with which our plant is equipped play an important part in the manufacture of Pittsburgh Seamless, yet these alone cannot assure the perfect tube round.

But, with more than a quarter century of "knowing how," combined with selected materials and improved modern equipment—we cast the ingot from which Pittsburgh Seamless draws its quality—with perfect assurance that the result will fully measure up to the standard established for "Pittsburgh" products.

Pittsburgh Steel Products Co.

DIVISION OF Pittsburgh Steel Co.

Pittsburgh New York Chicago Detroit St. Louis Houston Tulsa

Pittsburgh Seamless

2907

A Study of the Design will show you why the CLARK "SUPER 2" operates on *one-third less gas* than an ordinary 2-cycle compressor

Ask for detailed information

SEE OUR EXHIBIT AT THE INTERNATIONAL PETROLEUM EXPOSITION

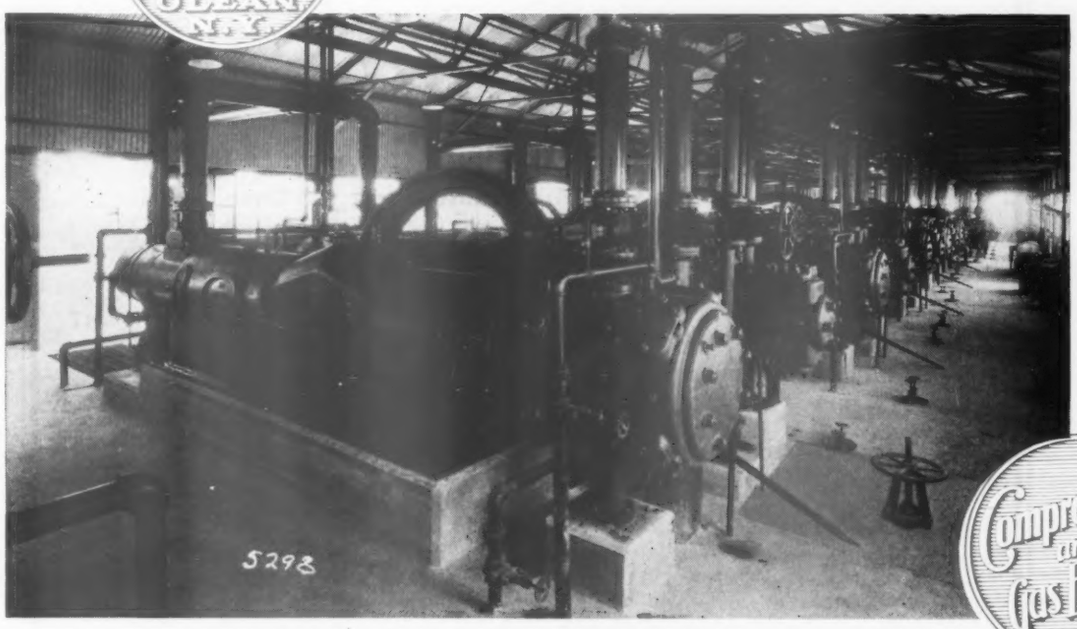
CLARK BROS. COMPANY, OLEAN, N. Y.

Export Office: [illegible] New York City

Branch [illegible] Warehouses:

125 W. First St., Tulsa; McCamey and Sweetwater, Texas; Artesia, New Mexico

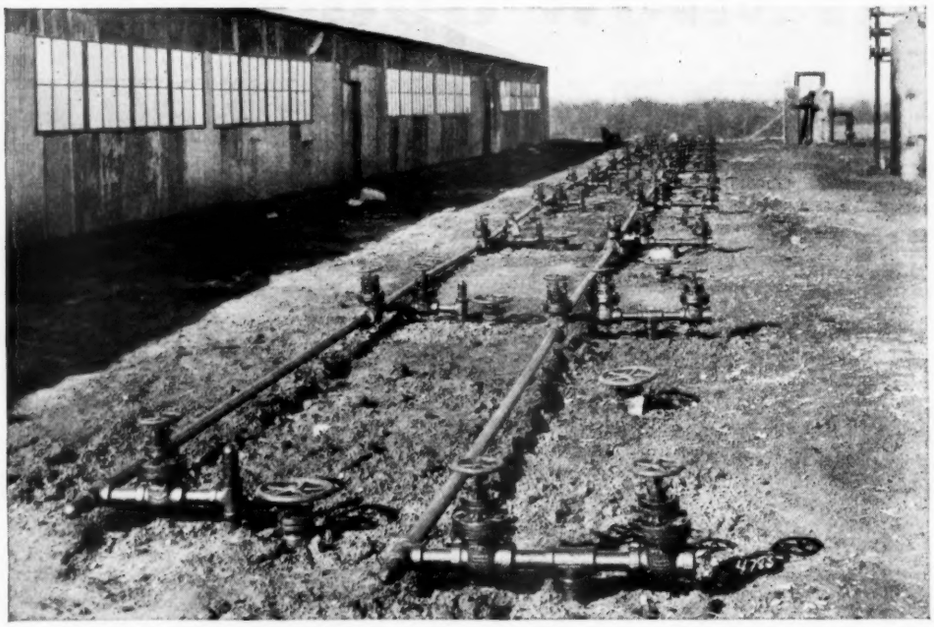
California: Smith, Booth, Usher Co., 228 S. Central Ave., Los Angeles



FIVE 190 H.P. AND FIVE 95 H.P. SUPER 2S IN THE EMPIRE GAS & FUEL CO., CAR CITY PLANT, MAUD, OKLAHOMA

Compressors and Gas Engines

CLARK



By Invitation Member

An installation of Darling Gate Valves at the Magnolia Petroleum Company's St. Louis, Oklahoma Plant. These valves are used on their discharge lines, air lift installations and subject to pressure varying from 350 to 1000 lbs. with temperature from 150° to 300° F.

Supremacy

In every industry there is some one product that by sheer merit and outstanding quality and performance is accepted as the standard by which other products may be judged.

In the oil industry it is Darling Gate Valves. Whether for drilling, conveying or refining the absolute supremacy of Darling Gate Valves has long been recognized by the "blue book" of the industry.

Darling Valve & Mfg. Company

Williamsport, Pa.

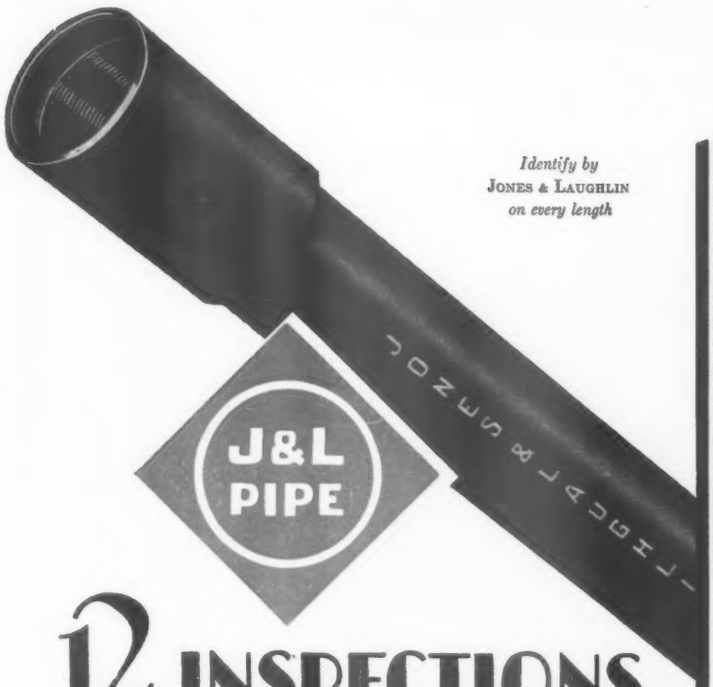
New York Chicago Oklahoma City Houston

Mid-Continent Distributors:

Frick-Reid Supply Corporation
International Supply Co.
Happy Belting Co.
Atlas Supply Co.
Petroleum Supply Co.

California Distributor:
Petroleum Equipment Company, Los Angeles

DARLING
GATE VALVES



Identify by
JONES & LAUGHLIN
on every length

12 INSPECTIONS INSURE UNIFORMLY HIGH QUALITY

J & L's adequate resources, ownership control of each process from ore mining to pipe making, nearly 80 years of experience in iron and steel making, and rigid inspection through each step of manufacture, are your guarantees that every length of J & L Seamless Casing you order is as nearly perfect as seamless casing can be made. Beginning with chemical and physical tests of raw materials, iron ore, coke and limestone (from J & L's own mines and quarries), inspection on J & L Seamless continues without interruption until the twelfth and final checking is made as the pipe is loaded for shipment.

In addition to the twelve tests and inspections (listed at right) a milling machine is kept busy constantly machining out samples for pull tests to insure tensile strength safely within requirements of the trade. Drillings are also taken during mill operations to be analyzed for chemical composition, and samples are microphotographed frequently to check grain structure.

Oil men declare: "There's no better Seamless made than J & L."

JONES & LAUGHLIN STEEL CORPORATION

Jones & Laughlin Building
PITTSBURGH - - PENNSYLVANIA

INSPECTIONS OF J & L SEAMLESS

1 Chemical tests of raw materials made at the mines and quarries, also before charging into blast furnaces.

2 Thorough analysis of pig iron produced by blast furnaces and metallurgical inspections as pig iron is made into steel in open hearth furnaces.

3 Chemical analysis for composition as steel is poured from open hearth furnaces into ingot molds.

4 Ingots rolled into blooms under temperature control.

5 Blooms pickled in strong acid to bring out defects. Inspectors pass blooms only after visible defects have been chipped out with pneumatic chisels.

6 As seamless tubes come from the straightener, inspectors scrutinize both outside and inside surfaces with the aid of specially designed lamps.

7 Ends trimmed; then pipe is inspected for wall thickness and correct outside diameter and roundness.

8 Pipe threads checked with certified gages and second inspection made for flaws, to insure clean cut accurate threads of proper pitch and taper.

9 Couplings as produced in our mills are closely inspected for correct tapping, threads accurately gaged for pitch and taper and checked on specially designed machines for alignment.

10 All items of previous inspections rechecked on testing benches, and stencil marks applied.

11 Each length given hydrostatic pressure test before rust-resisting coating is applied and pipe is delivered to shipping platform.

12 Final inspection of each length as it is loaded for shipment.

J&L STEEL

WELCOME NEWS TO CABLE TOOL DRILLERS!

The Lone Star Herald

LATE NEWS
Weather
Fair and Warmer

VOL. 2—NO. 288 * * * MONDAY, JUNE 17, 1929 * * * THREE CENTS

MANY OIL OPERATORS SAVING THOUSANDS OF DOLLARS WITH NEW KEROTEST HIGH PRESSURE OIL SAVER

SLEUTH SAVES MAN FROM MOB
Suspect, in Attack On

ACQUIT WOMAN IN MURDER CASE
Jury Frees Mrs. Barr,

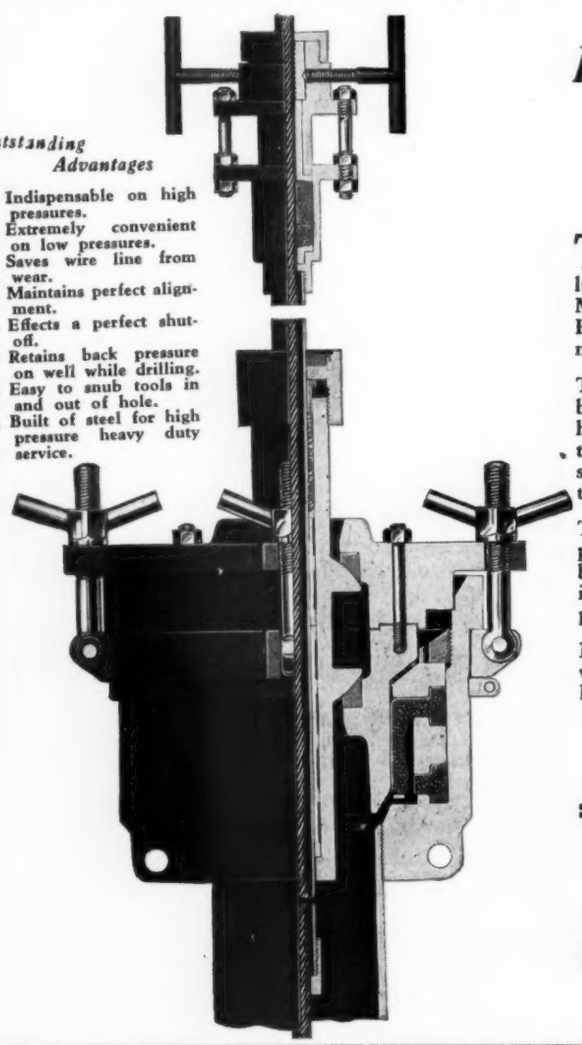
U. S. COMPILES CASUALTY LIST OF PROHIBITION

Demonstrates With Empty Gun, Kills Her Son

THREE KILLED AS WIRE FOULS CANADA PLANE

HEAT CLAIMS THIRD VICTIM
Boy Is Drowned In

MEETS A LONG FELT NEED IN CABLE TOOL DRILLING



Outstanding Advantages

1. Indispensable on high pressures.
2. Extremely convenient on low pressures.
3. Saves wire line from wear.
4. Maintains perfect alignment.
5. Effects a perfect shut-off.
6. Retains back pressure on well while drilling.
7. Easy to snub tools in and out of hole.
8. Built of steel for high pressure heavy duty service.

Built Expressly for Drilling Under High Pressure Gas Conditions

THE Kerotest High Pressure Oil Saver is new—nothing else like it—It has been tried, tested and proved to be absolutely dependable under the most difficult pressure conditions—Many cable tool drillers in the West Texas and Canadian Oil Fields have already saved thousands of dollars with this remarkable Kerotest device.

The Kerotest High Pressure Oil Saver consists of a patented ball and socket forged steel swivel mounted in a cast steel main housing. The higher the pressure, the greater force is exerted to maintain a tight seat on the swivel joint. In addition, the swivel joint maintains the cable in perfect alignment at all times thus saving wire line from wear.

The housing is equipped with a specially designed oil resisting packing ring which permits the well pressure to be actuated behind the rubber packing ring. The result is that any increase in the oil or gas pressure automatically produces a greater pressure on the rubber packing ring.

Investigate the Kerotest High Pressure Oil Saver today—You will find it a boon to economical, efficient cable tool drilling. Descriptive literature sent upon request.

KEROTEST

Kerotest Manufacturing Co.

PITTSBURGH, PENNSYLVANIA

AMONG CHAMPIONS

VERSATILITY

Call upon the Moore Champion for whatever derrick need you have and it will respond efficiently and economically. The basic design of the structure permits of changes to suit the widely varying demands of drilling and pumping. The Moore Champion Derrick conforms strictly to A. P. I. standards.

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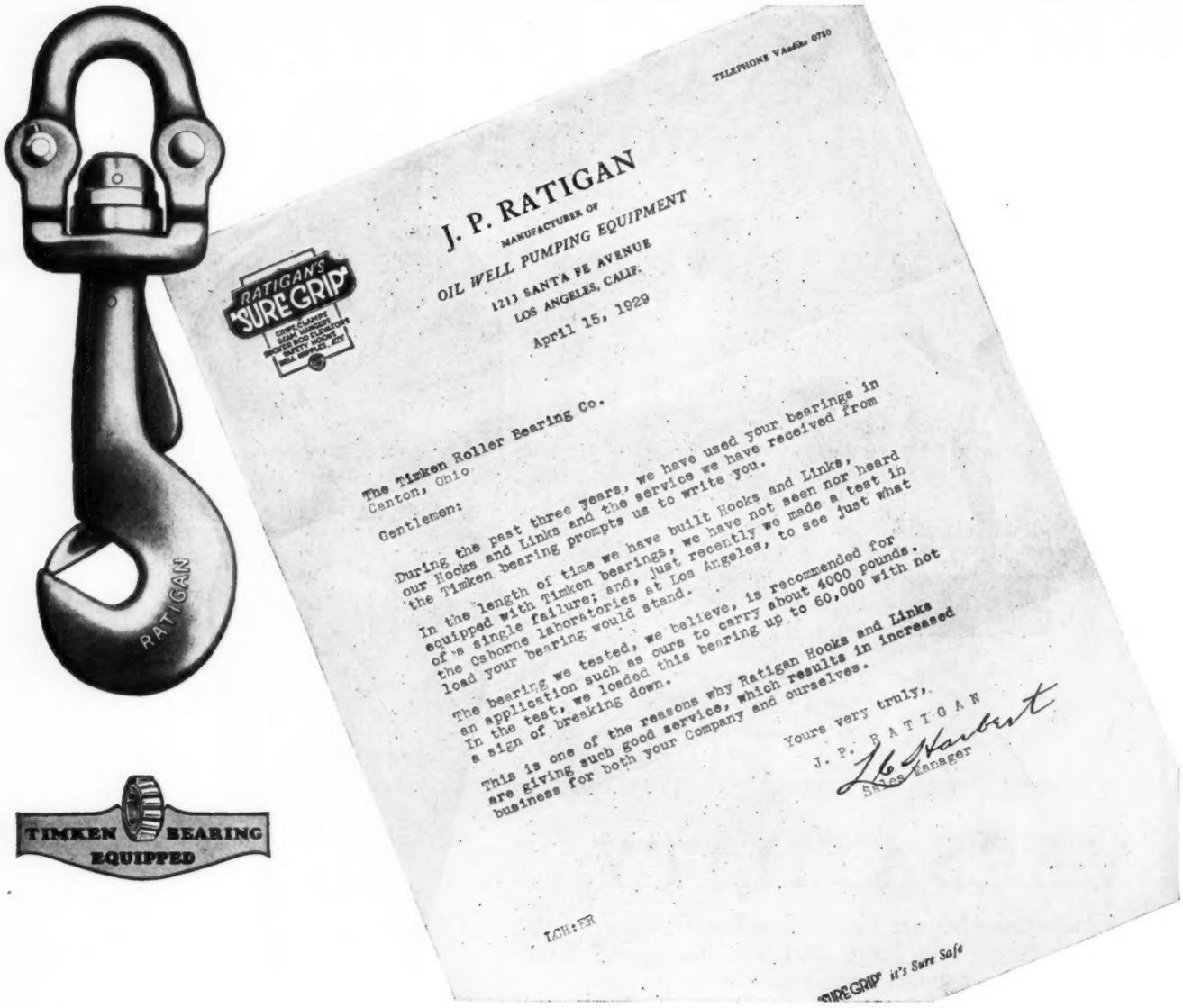
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RATIGAN'S "SURE GRIP"
TIMKEN BEARING EQUIPPED
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MANUFACTURER OF
OIL WELL PUMPING EQUIPMENT
1213 SANTA FE AVENUE
LOS ANGELES, CALIF.
April 15, 1929
The Timken Roller Bearing Co.
Canton, Ohio
Gentlemen:
During the past three years, we have used your bearings in our Hooks and Links and the service we have received from the Timken bearing prompts us to write you.
In the length of time we have built Hooks and Links, equipped with Timken bearings, we have not seen nor heard of a single failure; and, just recently we made a test in the Osborne laboratories at Los Angeles, to see just what load your bearing would stand.
The bearing we tested, we believe, is recommended for an application such as ours to carry about 4000 pounds. In the test, we loaded this bearing up to 60,000 with not a sign of breaking down.
This is one of the reasons why Ratigan Hooks and Links are giving such good service, which results in increased business for both your Company and ourselves.
Yours very truly,
J. P. RATIGAN
Sales Manager
LCH:ER
SURE GRIP it's Sure Safe

What Will A Timken Bearing Stand?

Read This Letter

This is just another instance of the splendid service being rendered by Timken Bearings in all types of oil field equipment.

Manufacturers and users of Timken-equipped machinery find in Timken *the one bearing that does all things* well ... whether the loads are all *radial* ... all *thrust* ... *or a combination of both.* Friction is eliminated, wear retarded and machine life prolonged as the exclusive combination of Timken tapered construction, Timken *POSITIVELY ALIGNED ROLLS* and Timken steel proves its ability to reduce maintenance costs and increase operating efficiency ... permanently.

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Two H. C. Smith efficiency tools that are vital factors in drilling operations—assuring the maximum of safety, speed and economy under all conditions of service.

The New H. C. Smith Type "C" Demountable Drilling Bit (Drop Forged)

The newest development in drilling bits which embodies several new features of blade and tooth position, which have proved especially effective in making faster, straighter hole in all types of formations. It has the same carefully designed serrated features of the H. C. Smith Type "B" drilling bit, allowing easier penetration of either hard or soft formations. The use of this drilling bit will reduce operating costs and introduce greater efficiency in drilling methods.

The H. C. Smith Type "C" Coring Outfit

This Coring Outfit is in daily use wherever cores are taken. It will take perfect cores in any formation that a fishtail or disc bit will penetrate. Renewable cutterheads can be changed in a few minutes and economically discarded when worn. It is simply designed and constructed of drop forged high carbon steel throughout. For efficiency and low cost of operation it is unequalled by any other type of coring outfit.

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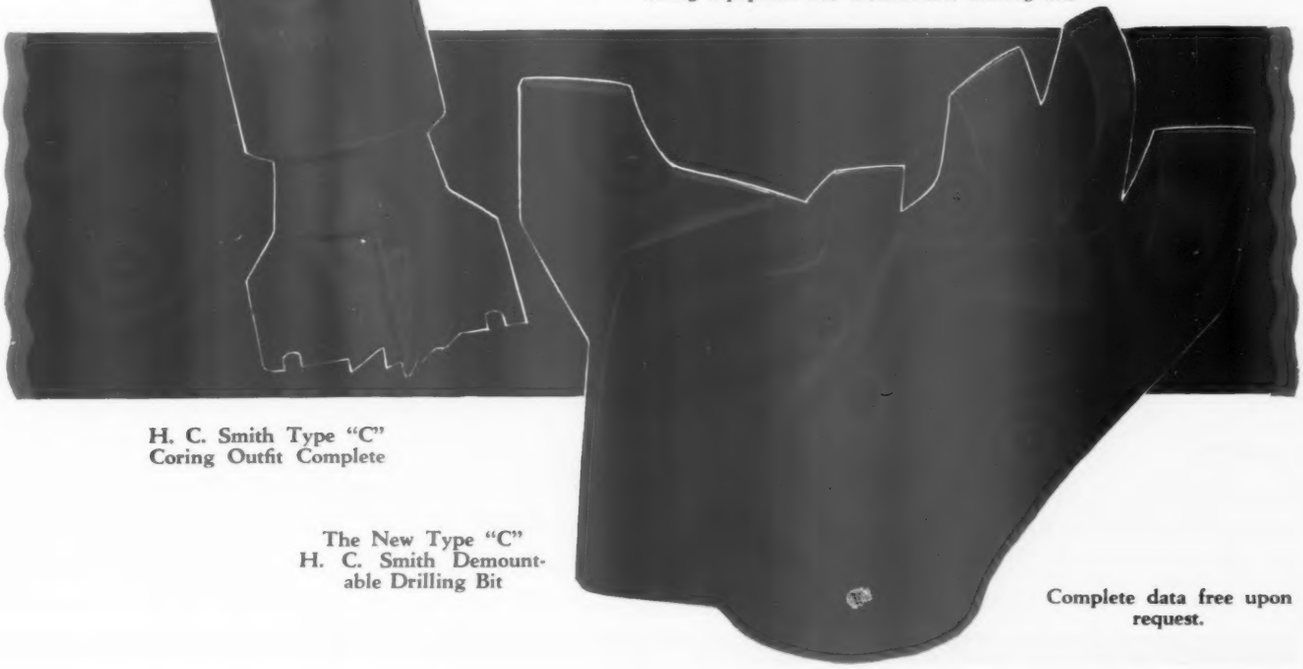

H. C. Smith Type "C" Coring Outfit Complete

The New Type "C" H. C. Smith Demountable Drilling Bit

Complete data free upon request.

Greater Efficiency Obtainable with Baker-Burch Side Hole Cement Float Shoe

The Baker-Burch Side Hole Cement Float Shoe has certain features which make it more efficient in operation than the regular Baker-Burch Cement Float Shoe and for this reason it is given the preference in many operating areas. In landing and cementing long and heavy strings of casing, it offers the following advantages:

Free and easy circulation, at all times.
Circulation can be obtained when shoe is set solidly on the bottom and cannot be raised.
Circulation will not be shut off when the hole is tight at the bottom.
Gives better circulation in heavy or sandy mud than is otherwise possible.
Gives a more even distribution of the cement around the shoe and casing and the cement is less likely to channel.
Its records of performance have proven its superiority in hundreds of successful jobs in the deepest fields in the world.

Each item of the entire line of Baker Cement Equipment is the best for the purpose for which it was designed. Standardize on Baker Cement Equipment in your operations for greater efficiency and less grief.

—NOW GET THESE FACTS—

BAKER CEMENT EQUIPMENT is the Recognized Standard

Baker Cement Equipment is the Universally-Accepted Standard in these particulars:

The cement is made according to a tested and proven formula which has demonstrated that it will not shatter or fracture in the hole.

The cement, while amazingly strong, is easily disintegrated under the drill and is disposed of either by circulation or into the formation.

The use of cement entirely eliminates the troubles and hazards common to the use of cast-iron equipment.

Baker Cement Equipment does not and cannot interfere, in any way, with subsequent operations.

Baker Cement Equipment is the result of extended study, field experience, and testing under actual working conditions in the field, and assures the operator a line of equipment which is absolutely reliable, in every particular, with none of the troublesome features common to cast-iron equipment.

Baker Cement Equipment has been tried and tested in every field, under the most difficult conditions, with the greatest possible success, and operators everywhere are most enthusiastic about its reliability.

Baker Cement Equipment is the original and only equipment of its kind and it is fully protected by our Patents Nos. 1035674, 1491915, 1561768, and 1603447. Other Patents are still pending.

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